1. Using FUNCTION…END FUNTION, write a program to calculate the average of three numbers

```
DECLARE FUNCTION AVERAGE (A, B, C)
CLS
INPUT "ENTER FIRST NUMBER"; A
INPUT "ENTER SECOND NUMBER"; B
INPUT "ENTER THIRD NUMBER"; C
PRINT "AVERAGE OF THREE NUMBERS"; AVERAGE (A, B, C)

FUNCTION AVERAGE (A, B, C)
AVERAGE = (A + B + C) / 3
ENDFUNCTION
```

4. Write a program in QBASIC to find square root of a given number using FUNCTION…..END FUNCTION.

```
DECLARE FUNCTION SROOT (N)
CLS
INPUT "ENTER ANY NUMBER"; N
PRINT "SQUARE ROOT ";SROOT (N)
END

FUNCTION SROOT(N)
SROOT = N ^(1/2)
ENDFUNCTION
```

2. Write a program using SUB to find the average of any two numbers given by the user.

```
DECLARE SUB AVERAGE (A, B)
CLS
INPUT "ENTER FIRST NO."; A
INPUT "ENTER SECOND NO"; B
CALL AVERAGE (A, B)
END

SUB AVERAGE (A, B)
AV = (A + B) / 2
PRINT "AVERAGENUMBERS"; AV
END SUB
```

5**. Write a program in QBASIC to find cube root of a given number using SUB…..END SUB.**

```
DECLARE SUB CUBER (N)
CLS
INPUT "ENTER A NUMBER"; N
CALL CUBER (N)
END

SUB CUBER (N)
 C = N ^(1/ 3)
PRINT "CUBE OF NUMBER "; C
END SUB
```

3. Write a program to calculate the square and cube of an input numbers. Calculate square using FUNCTION and cube using SUB.

```
DECLARE FUNCTION SQUARE (A)
DECLARE SUB CUBE (A)
CLS
INPUT "ENTER A NUMBER"; A
PRINT "Square is"; SQUARE(A)
CALL CUBE(A)
END

FUNCTION SQUARE (A)
S = A*A
SQUARE=S
END FUNCTION

SUB CUBE (A)
C = A*A*A
PRINT " THE CUBE IS";C
END SUB
```

6. Write a program to calculate the square root and cube root of an input number.
Calculate square root using FUNCTION and cube root using SUB.
(TRY YOURSELF)

7. Write a program to calculate and print the simple interest and amount to pay using FUNCTION……END FUNCTION.

```
DECLARE FUNCTION SI (P, T, R)
DECLARE FUNCTION AMT(P,T,R)
CLS
INPUT "ENTER PRINCIPAL"; P
INPUT "ENTER TIME"; T
INPUT "ENTER RATE";R
PRINT "SIMPLE INTEREST";SI(P, T, R)
PRINT "AMOUNT";AMT(P,T,R)
END

FUNCTION  SI(P, T, R)
 I = (P* T * R) / 100
SI= I
END FUNCTION

FUNCTION  AMT(P,T,R)
   I = (P*T*R)/100
   A=P+I
   AMT=A
END FUNCTION
```

8**. Write a program in QBASIC to find the sum of square of two input numbers and the sum of cube of two input numbers using SUB…..END SUB**

```
DECLARE SUB  SCUBE (A, B,)
DECLARE SUB  SSQUARE(A,B)
 CLS
INPUT "ENTER 1st NUMBER"; A
INPUT "ENTER 2nd NUMBER"; B
CALL SCUBE (A, B)
CALL SSQUARE(A,B)
END

SUB SCUBE (A, B)
 C = A ^ 3 + B ^ 3
PRINT "SUM OF CUBE "; C
END SUB

SUB SSQUARE (A, B)
 S = A ^ 2 + B ^ 2
PRINT "SUM OF SQUARE ";S
END SUB
```

9. Write a program to find the area and perimeter of rectangle. Calculate area using SUB and calculate perimeter using FUNCITON [A=L*B]

```
DECLARE SUB AREA (L, B)
DECLARE FUNCTION PERI (L, B)
CLS
INPUT "ENTER LENGTH"; L
INPUT "ENTER BREADTH"; B
CALL AREA (L, B)
PRINT " PERIMETER IS";PERI(L,B)
END

SUB AREA (L, B)
 A = L * B
PRINT "AREA OF RECTANGLE="; A
END SUB

FUNCTION PERI (L, B)
PERI = 2 * (L +B)
ENDFUNCTION
```

10. Using FUNCTION……END FUNCTION, write a program to input cost price and selling price from the keyboard to calculate profit.

```
DECLARE FUNCTION PROFIT(CP,SP)
CLS
INPUT "ENTER COST PRICE"; CP
INPUT "ENTER SELLING PRICE"; SP
PRINT "PROFIT IS"; PROFIT (CP, SP)
END

FUNCTION PROFIT (CP, SP)
P = SP – CP
PROFIT = P
END   FUNCTION
```

11. Write a program using SUB……END SUB to find the area and perimeter of square. [P=4L] [$A=L^2$]

```
DECLARE SUB AREA (L)
DECLARE SUB PERIMETER (L)
CLS
INPUT "ENTER LENGTH"; L
CALL AREA (L)
CALL PERIMETER (L)
END
SUB AREA(L)
A = L ^ 2
PRINT "AREA OF SQUARE"; A
END SUB
SUB PERIMETER (L)
    P = 4 * L
    PRINT "PERIMETER is"; P
END SUB
```

12. Write a program in QBASIC to find the area of four wall of a room using FUNCTION…..END FUNCTION.

```
DECLARE FUNCTION AREA (L, B, H)
CLS
INPUT "ENTER LENGTH"; L
INPUT "ENTER BREADTH"; B
INPUT "ENTER HEIGHT"; H
PRINT "AREA IS"; AREA(L, B, H)
END

FUNCTION AREA (L, B, H)
A = 2 * H * (L + B)
AREA = A
END FUNCTION
```

13. Write a program using SUB….END SUB to get radius of circle and then print its circumference. [C=2ΠR]

```
DECLARE SUB CIRCUM (R)
CLS
INPUT "ENTE RADIUS"; R
CALL CIRCUM (R)
END

SUB CIRCUM (R)
C = 2 * 3.14 * R
PRINT "CIRCUMFERENCE is "; C
END SUB
```

14.Write a program using FUNCTION….END FUNCTION to get radius of the circle and display the area.

```
DECLARE FUNCTION AREA (R)
CLS
INPUT "ENTER RADIUS"; R
PRINT "AREA is "; AREA(R)
END

FUNCTION AREA (R)
A = 3.14 * R ^ 2
AREA = A
END FUNCTION
```

15. Write a program to get radius of circle and then print its area and circumference. Calculate circumference using SUB and calculate area using FUNCTION.

```
DECLARE SUB CIRCUM(R)
DECLARE FUNCTION AREA (R)
CLS
INPUT "ENTER RADIUS"; R
CALL CIRCUM(R)
PRINT "AREA IS "; AREA(R)
END

SUB CIRCUM (R)
C = 2 * 22/7 * R
PRINT "CIRCUMFERENCE";C
 END SUB

FUNCTION AREA (R)
AREA = 3.14 * R ^ 2
ENDFUNCTION
```

16. Using Function…… End Function, write a program to calculate volume of hemisphere. [volume = 2/3 πR3]

```
DECLARE FUNCTION VOLUME (R)
CLS

INPUT "ENTER RADIUS"; R

PRINT "VOLUME is "; VOLUME(R)

END


 FUNCTION VOLUME (R)

  VOLUME = (2 / 3) * 3.14 * R ^ 3

 END FUNCTION
```

17. Using Sub…… End Sub, write a program to calculate area of sphere. [area = $4\pi r^2$]

```
DECLARE SUB TSAREA (R)
CLS
INPUT "ENTER RADIUS"; R
CALL TSAREA(R)
END

SUB TSAREA (R)
A= 4 * 3.14 * R ^ 2
PRINT "TSA OF SPHERE is "; A
END SUB
```

18. Calculate volume of hemisphere using SUB and calculate area of sphere using Function.
(Try yourself)

19. Write a program to input Fahrenheit and convert it into Celsius using SUB - END SUB.

```
DECLARE SUB CONVERT (F)
 CLS
INPUT "ENTER FAHRENHEIT"; F
CALL CONVERT (F)
END
SUB CONVERT (F)
   C = (F – 32) * (5 / 9)
PRINT "IN CELCIUS="; C
END SUB
```

20. Write a program to convert USD (dollar) into NC (NEPALI currency) using FUNCTION.

```
DECLARE FUNCTION NRS(D)
CLS
INPUT "ENTER DOLLAR"; D
PRINT "NEPALESE Rupees";NRS (D)
END

FUNCTION NRS (D)
NRS = D * 132.14
END FUNCTION
```

21. Write a program to convert NC (NEPALI currency) into IC (Indian Currency) using SUB and also convert into us dollar using FUNCTION.
[ic 1 = NRS 1.6, $1 = 132.14]
(Try yourself)

22. Write a program to input any number and check whether the given no. is divisible by 3 and 7 or not using function procedure.

```
DECLARE FUNCTION CHECK$ (N)
CLS
INPUT "Enter any number"; N
PRINT "The number is "; CHECK$(N)
END

FUNCTION CHECK$ (N)
IF N MOD 3 = 0 AND N MOD 7 = 0 THEN
CHECK$ = "divisible by 3 and 7"
 ELSE
CHECK$ = "not divisible by 3 and 7"
 END IF
END FUNCTION
```

23. Using SUB…END SUB, write a program to test whether the given number is completely divisible by 13 or not.

```
DECLARE SUB CHECK (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL CHECK (N)
END
SUB CHECK (N)
IF N MOD 13 = 0 THEN
PRINT "The number is divisible by 13"
ELSE
PRINT "It  is not divisible by 13"
END IF
END SUB
```

24. Write a sub program to find whether the given number is even or odd and also find whether the number is prime or composite using FUNCTION.
[TRY YOURSELF]

25. Write a program to enter any three numbers and display the smallest one using SUB procedure.

```
DECLARE SUB SMALL (A, B, C)
CLS
INPUT“ENTERANY 3 NOs”; A, B, C
CALL SMALL (A, B, C)
END
SUB SMALL (A, B, C)
IF A < B AND A < C THEN
S =A
ELSEIF B < A AND B < C THEN
S =B
ELSE
S =C
END IF
PRINT “THE SMALLEST No. is “; S
END SUB
```

26. Write a program to enter any 3 DIFFERENT numbers and display the greatest number using SUB and the smallest number using FUNCTION.
(TRY YOUR SELF)

27. Write a program to input three different numbers in the main module then find the greatest number using FUNCTION.

```
DECLARE FUNCTION GREAT(A, B, C)
INPUT “ENTER ANY 3 NOS ”; A, B, C
PRINT “GREATEST NO”; GREAT (A, B, C)
END
FUNCTION GREAT (A, B, C)
IF A > B AND A > C THEN
G =A
ELSEIF B > A AND B > C THEN
G =B
ELSE
G = C
END IF
GREAT = G
END FUNCTION
```

28. Write a program to display only perfect square numbers between 1 to 100 using SUB-END SUB.

```
DECLARE SUB PERFECT ( )
CLS
CALL PERFECT
END
SUB PERFECT ( )
FOR N = 1 TO 100
   S = SQR(N)
   IF S = INT(S) THEN
      PRINT N
   ENDIF
NEXT N
END SUB
```

29. Write a program to define a function procedure which returns whether an input number is positive, negative or zero using SGN function.

```
DECLARE FUNCTION CHECK$ (N)
CLS
INPUT "Enter any number"; N
PRINT "The number is "; CHECK$(N)
END
FUNCTION CHECK$ (N)
S = SGN(N)
SELECT CASE S
   CASE 1
      CHECK$ = "positive number"
   CASE -1
      CHECK$ = "negative number"
   CASE 0
      CHECK$ = "zero"
END SELECT
END FUNCTION
```

30. Write a program to input any number and display whether it is positive, negative or zero using SUB and also display if it is divisible by both 2 and 3 or not using FUNCTION.

[TRY IT YOURSELF]

31. Write a program to input any number and check whether the given no. is positive or negative using sub procedure.

```
DECLARE SUB CHECK (N)
CLS
INPUT “ENTER ANY NUMBER”; N
CALL CHECK (N)
END
SUB CHECK (N)
 IF N > 0 THEN
PRINT “ POSITIVE NUMBER”
ELSEIF N < 0 THEN
PRINT “ NEGATIVE NUMBER”
END IF
END SUB
```

32.Write a sub program to input three sides of a triangle and determine whether a triangle is equilateral, isosceles or scalene triangle or not.

```
DECLARE SUB CHECK (A, B, C)
INPUT “ENTER 3 SIDES ”; A,B,C
CALL CHECK (A, B, C)
END
SUB CHECK (A, B, C)
IF A = B AND B = C THEN
PRINT “IT IS AN   EQUILATERAL”
ELSEIF A=B OR B=C OR C = A THEN
PRINT “IT IS ISOSCELES”
ELSEIF A < > B AND B < > C THEN
PRINT “ IT IS A SCALENE”
END IF
END SUB
```

33. WAP to print the sum of the digits of a given numbers using SUB Procedure.

```
DECLARE SUB SUM (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL SUM (N)
END
SUB SUM (N)
S =0
WHILE N < > 0
R = N MOD 10
S = S + R
N = N \ 10
WEND
PRINT "SUM OF DIGITS"; S
END SUB
```

34. Write a program to enter a number and find the product of its digits using FUNCTION procedure.

```
DECLARE FUNCTION PROD (N)
CLS
INPUT "ENTER ANY NUMBER"; N
PR = PROD (N)
PRINT "PRODUCT OF DIGITS";PR
END

FUNCTION PROD (N)
P =1
WHILE N < > 0
R = N MOD 10
 P = P * R
N = N \ 10
WEND
PROD = P
END FUNCTION
```

35. Write a sub program to input number and find sum of even digits.

```
DECLARE SUB SUMEVEN (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL SUMEVEN (N)
END

SUB SUMEVEN (N)
S =0
WHILE N <> 0
R = N MOD 10
IF R MOD 2 = 0 THEN S = S + R
N = N \ 10
WEND
PRINT"SUM OF  EVENDIGITS"; S
END SUB
```

36. Write a program to input multi digit number and display sum of only odd digits using Function and also display sum of only even digits using SUB.

[TRY IT YOURSELF]

37. Write a program using FUNCTION procedure to reverse the MULTI digit number. [Hint: 123 is reversed as 321].

```
DECLARE FUNCTION REV (N)
CLS
INPUT "ENTER ANY NUMBER"; N
PRINT " REVERSED DIGITS"; REV (N)
END

FUNCTION REV (N)
S = 0
WHILE N < > 0
R = N MOD 10
S = S * 10 + R
N = N \ 10
WEND
REV = S
END FUNCTION
```

38. Write a sub program to input number and count total no. of digits.

```
DECLARE SUB COUNT (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL COUNT (N)
END

SUB COUNT (N)
C =0
WHILE N < > 0
C = C + 1
N = N \ 10
WEND
PRINT "NUMBER OF DIGITS"; C
END SUB
```

39. Write a sub program to display all prime numbers from 1 to 100.

```
DECLARE SUB PRIME ( )
CLS
CALL PRIME
END

SUB PRIME
FOR N = 1 TO 100
C = 0
  FOR I = 1 TO N
    IF  N MOD I = 0 THEN C = C + 1
  NEXT I
     IF C = 2 THEN PRINT N,
NEXT N
     END SUB
```

40. Write a function program to input number and check whether the given no. is prime or composite.

```
DECLARE FUNCTION PRIME$(N)
CLS
INPUT "ENTER ANY NUMBER"; N
PRINT PRIME$(N)
END

FUNCTION PRIME$ (N)
C =0
FOR I = 1 TO N
IF N MOD I = 0 THEN C = C + 1
NEXT I
IF C = 2 THEN
   PRIME$= "IS PRIME NUMBER"
ELSE
 PRIME$= "IS COMPOSITE NUMBER"
END IF
END FUNCTION
```

41. Write a sub program to input any number and check whether the given number is palindrome number or not.

```
DECLARE SUB PALIN (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL PALIN (N)
END
SUB PALIN (N)
A = N
S = 0
WHILE N < > 0
R = N MOD 10
S = S * 10 + R
N = N \ 10
WEND
IF A = S THEN
PRINT A; "IS PALINDROME"
ELSE
PRINT A; "IS NOT PALINDROME"
END IF
END SUB
```

42.Write a program in QBASIC to input any two different number and print HCF using FUNCTION and LCM using SUB……END SUB

[Try it yourself]

43. Write a program using FUNCTION. .....END FUNCTION to calculate the factorial of an input number.

```
DECLARE FUNCTION FACT (N)
 CLS
INPUT "ENTER ANY NUMBER"; N
PRINT "FACTORIAL ="; FACT (N)
END

FUNCTION FACT (N)
F =1
FOR I = 1 TO N
   F = F * I
NEXT I
FACT = F
END FUNCTION
```

44. Write a program using a SUB procedure module to print the multiplication table of any input number up to tenth terms. [SEE 2075 S2]

```
DECLARE SUB MUL (N)
CLS
INPUT "ENTER ANY NUMBER"; N
CALL MUL (N)
END

SUB MUL (N)
FOR I = 1 TO 10
      PRINT N; "X"; I; "="; N * I
NEXT I

END SUB
```

45.Write a program using sub procedure to print series: 1, 11, 111, 1111, 11111

```
DECLARE SUB SERIES ( )
CLS
CALL SERIES
 END
SUB SERIES
A = 1
FOR I = 1 TO 5
    PRINT A,
   A = A * 10 + 1
NEXT I

END SUB
```

46. Write a program to print the following series by using SUB ……END SUB: 1, 4, 9, 16.... upto 10thterm.

```
DECLARE SUB SERIES ()
CLS
CALL SERIES END

SUB SERIES

 FOR I = 1 TO 10

    PRINT I ^ 2

 NEXT I
END SUB
```

47. Write a program to print 1, 8, 27, 64 ....upto 10thterm.

```
DECLARE SUB SERIES ( )
CLS
CALL SERIES END

SUB SERIES

 FOR I = 1 TO 10
     PRINT I ^ 3
 NEXT I

  END SUB
```

48. Write a sub program to print sum of first ten numbers.

```
DECLARE SUB SERIES ( )
CLS
CALL SERIES
END

SUB SERIES
FOR I = 1 TO 10
    S = S + I
NEXT I
PRINT “SUM is ” ; S
END SUB
```

49. Write a program to display 1,2,3,5,8 ..... 10thterms.

```
DECLARE SUB SERIES ( )
CLS
CALL SERIES
END

SUB SERIES ( )
A =1
B =2
FOR I = 1 TO 10
  PRINT A;
   C = A + B
   A = B
   B = C
NEXT I
END SUB
```

50 .Write a program using FUNCTION to get a word from the user and print the word in the reverse order.

```
DECLARE FUNCTION REV$ (S$)
CLS
INPUT "ENTER ANY STRING"; S$
PRINT "REVERSED IS "; REV$(S$)
END

FUNCTION REV$ (S$)

FOR I = LEN(S$) TO 1 STEP -1
    B$ = MID$(S$, I, 1)
   W$ = W$ + B$
 NEXT I

REV$ = W$
END FUNCTION
```

Write a sub program to find whether the given number is perfect square number or not.

```
DECLARE SUB PERFECT (N)
CLS
INPUT "ENTER A NUMBER"; N
CALL PERFECT (N)
END
SUB PERFECT (N)
S = SQR(N)
IF S = INT(S) THEN
  PRINT "PERFECT SQUARE"
ELSE
  PRINT "NOT PERFECT SQUARE"
END IF
END SUB
```

51. Write a sub program to display numbers 2,4,6, ...20.

```
DECLARE SUB SERIES ( )
CLS
CALL  SERIES
END
SUB SERIES
FOR I = 2 TO 20
   PRINT I
NEXT I
END
SUB
```

52.Write a sub program to display numbers 100,90,80, ... 10

```
DECLARE SUB SERIES ( )
CLS
CALL SERIES
END
SUB SERIES
FOR I = 100 TO 80 STEP-10
      PRINT  I
NEXT I
END SUB
```

53.Write a program to print the following serial 9, 7, 5,……1

```
DECLARE SUB SERIES
( ) CLS
CALL SERIES
END
SUB SERIES
FOR I = 9 TO 1 STEP-2
     PRINT I
NEXT I
 END SUB
```

54. Write a program to test whether the input word is palindrome word or not using FUNCTION…..... END FUNCTION.

```
DECLARE FUNCTION REV$ (S$)
CLS
INPUT "ENTER ANY STRING"; S$
PRINT REV$(S$)
END
FUNCTION REV$ (S$)
FOR I = LEN(S$) TO 1 STEP -1
 B$ = MID$(S$, I, 1)
 W$ = W$ + B$
NEXT I
IF S$ = W$ THEN
     REV$= “THE GIVEN STRING IS PALINDROME”
 ELSE
     REV$ = “THE GIVEN STRING IS NOT PALINDROME”
END IF
END FUNCTION
```

[TRY IT YOURSELF]
WAP to input a word and display its reverse using function and also display if it is palindrome or not using sub.

WAP to input a word and display number of consonants in it using SUB and also display number of vowels in it using FUNCTION.
[TRY IT YOURSELF]

55. Write a program using FUNCTION….END FUNCTION to input a string and count the total number of consonants.

```
DECLARE FUNCTION COUNT (S$)
CLS
INPUT "ENTER ANY STRING"; S$
PRINT "TOTAL NO. OF CONSONANTS= "; COUNT(S$)
END
FUNCTION COUNT (S$)
CC = 0
FOR I = 1 TO LEN(S$)
B$ = MID$(S$, I, 1)
C$ =UCASE$(B$)
IF C$ <> "A" AND C$ <> "E" AND C$ <> "I" AND C$ <>
"O" AND C$ <> "U" THEN CC = CC + 1
NEXT I
COUNT = CC
END FUNCTION
```

56. Write a program to find the numbers of vowels in an input string using ‘SUB…..END SUB’.

```
DECLARE SUB COUNT (S$)
CLS
INPUT "ENTER ANY STRING"; S$
CALL COUNT(S$)
END

SUB COUNT (S$)
VC = 0
FOR I = 1 TO LEN(S$)
  B$ = MID$(S$, I, 1)
  C$ =UCASE$(B$)
  IF C$ = "A" OR C$ = "E" OR C$ = "I" OR C$ = "O" OR C$
= "U" THEN VC = VC + 1
NEXT I
PRINT “NO. OF VOWELS= "; VC

END SUB
```

57. Write a program using FUNCTION... END FUNCTION to count the number of words in a sentence.

```
DECLARE FUNCTION COUNT (S$)
CLS
INPUT "ENTER ANY STRING"; S$
PRINT "TOTAL NO. OF WORDS= "; COUNT(S$)
END

FUNCTION COUNT (S$)
WC = 1
FOR I = 1 TO LEN(S$)
B$ = MID$(S$, I, 1)
IF B$ = " " THEN WC = WC + 1
NEXT I
COUNT = WC
END FUNCTION
```

58. Write a program to declare SUB procedure to print only the vowels from a given word.

```
DECLARE SUB DISPV (S$)
CLS
INPUT "ENTER ANY STRING"; S$
CALL DISPV(S$)
END

SUB DISPV(S$)
FOR I = 1 TOLEN(S$)
B$ = MID$(S$, I, 1)
C$ =UCASE$(B$)
IF C$ = "A" OR C$ = "E" OR C$ = "I" OR C$ = "O" OR C$
= "U" THEN V$=V$+ C$
NEXT I
PRINT “VOWELS ONLY ARE”; V$
END SUB
```

59. Write a sub program to input any string and display only consonant.

```
DECLARE FUNCTION DISP$ (S$)
CLS
INPUT "ENTER ANY STRING"; S$
PRINT DISP(S$)
END

FUNCTION DISP$ (S$)
FOR I = 1 TO LEN(S$)
B$ = MID$(S$, I, 1)
C$ = UCASE$(B$)
IF C$ <> "A" AND C$ <> "E" AND C$ <> "I" AND C$ <> "O"
AND C$ <> "U" AND C$ <> " " THEN W$=W$+B$
 END IF
NEXT I
DISP$ = W$
END FUNCTION
```

60.Write a program using SUB ..... END SUB to display -

NEPAL
NEPA
NEP
NE
N

```
DECLARE SUB PATTERN (S$)
S$ = "NEPAL"
CALL PATTERN(S$)
END
SUB PATTERN(S$)
FOR I = LEN(S$) TO 1 STEP - 1

PRINT  LEFT$(S$,I)

NEXT I
END SUB
```

FILE HANDLING QUESTIONS

1. Write a program to store Roll no., Name, Class and Address of any five students. [SEE 2074]

```
OPEN "Student.dat" FOR OUTPUT AS #1
FOR I = 1 TO 5
INPUT "Enter Roll No."; r
INPUT "Enter Name"; n$
INPUT "Enter Class"; c
INPUT "Enter Address"; a$
WRITE #1, r, n$, c, a$
NEXT I
CLOSE #1
END
```

2. A sequential data file called “student.dat” contains some records under the field’s name, english, nepali and computer. Write a program to add some more records in the same sequential data file. [SLC 2068]

```
OPEN “student.dat” FOR APPEND AS #1
DO
INPUT “ENTER NAME”; N$
INPUT “ENTER MARKS IN ENGLISH”; E
INPUT “ENTER MARKS IN NEPALI”; N
INPUT “ENTER MARKS IN COMPUTER”; C
WRITE #1, N$, E, N, C
INPUT “DO YOU WANT TO CONTINUE”; CH$
LOOP WHILE UCASE$(CH$) = “Y”
CLOSE #1
END
```

3. Delete some records from "neps.dat" file where computer ask user to enter the record, which is to be deleted. (Fields are name, address, and telephone number)

```
OPEN "NEPS.DAT" FOR INPUT AS #1
OPEN "TEMP.DAT" FOR OUTPUT AS #2
CLS
INPUT "Enter name which is to be deleted"; D$
WHILE NOT EOF(1)
INPUT #1, N$, A$, T
IF UCASE$(D$)< >UCASE$(N$) THEN
   WRITE #2, N$, A$, T
ELSE
    PRINT "Deleted RECORD="; N$, A$, T
END IF
WEND
CLOSE #1, #2
 KILL "NEPS.DAT"
NAME "TEMP.DAT" AS "NEPS.DAT"
END
```

4. Create a data file to store the records of few employees having Name, Address, Post, Gender and Salary fields. [SEE 2073]

```
OPEN "std.rec" FOR OUTPUT AS #1
TOP:
CLS
INPUT "Enter Name"; N$
INPUT "Enter Address"; A$
INPUT "Enter Post"; P$
INPUT "Enter gender"; G$
INPUT "Enter Salary"; S
WRITE #1, N$, A$, P$, G$, S
INPUT "Do you want to continue"; CH$
IF UCASE$(CH$)="Y" THEN GOTO TOP
CLOSE #1
END
```

5. Create a sequential data file 'Price.dat' to store item name, quantity and Rate also calculate total amount (total=Quantity Rate).Program should terminate according to the user's choice.

```
OPEN "price.dat" FOR OUTPUT AS#1
TOP:
CLS
INPUT "Enter Item Name"; N$
INPUT "Enter Quantity"; Q
 INPUT "Enter Rate"; R
T = Q * R
WRITE #1, N$, Q, R, T
INPUT "Do you want to continue"; CH$
IF CH$="Y" OR CH$ = "y" THEN GOTO TOP
CLOSE #1
END
```

6. Create a sequential data file'post.dat' to store name and marks of any three subjects also calculate total and percentages only for 15 students.

```
OPEN "post.dat" FOR OUTPUT AS #1
FOR I = 1 TO 15
INPUT "Enter Name"; n$
INPUT "Enter marks in any three subjects"; A, B, C
T = A + B + C
P = T / 3
WRITE #1, n$, A, B, C, T, P
NEXT I
CLOSE #1
END
```

7 .A Sequential data file called "SEE.DAT" has stored data under the field heading Symbol No., Name, English, Nepali, and Computer. Write a program to display all the information of those students whose marks in Computer is more than 80.

```
OPEN "SEE.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, A, B$, C, D, E
  IF E > 80 THEN
     PRINT A, B$, C, D, E
  END IF
WEND

CLOSE #1
 END
```

8. Write a program to read all the records from the data file "STUDENT.TXT" and display all the records where the fields name is unknown.

```
OPEN "STUDENT.TXT" FOR INPUT  AS #1
CLS
WHILE NOT EOF (1)
    LINE INPUT #1, A$
    PRINT A$
WEND
CLOSE #1
END
```

9.A sequential data file'post.dat' has few records related to name, address, salary.WAP to display the records whose address begins with 'S' or 'D'

```
OPEN "POST.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, N$, P$, S
A$ = UCASE$(LEFT$(N$,1))
IF A$ = "S" OR A$ = "D" THEN PRINT N$, P$, S
WEND
CLOSE #1     END
```

10. A sequential data file "STD.TXT" contains name and marks in three different subjects of some students. Write a program to display only fail student's records assuming pass marks 40.

```
OPEN "STD.TXT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
   INPUT #1, B$, C, D, E
   IF C < 40 AND D < 40 AND E < 40 THEN PRINT B$, C, D, E
WEND
CLOSE #1
END
```

11. A data file "pabson.txt" contains the records composed of the fields like school, principal, address, contact. Write a program in Qbasic to display records of the schools located in either Kathmandu or Lalitpur

```
OPEN "PABSON.TXT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, A$, B$, C$, D
IF UCASE$(C$) = “KATHMANDU” OR UCASE$(C$) =
"LALITPUR” THEN      PRINT A$, B$, C$, D
WEND
CLOSE #1
END
```

12. A data file “INFO.DAT” has numerous records in it with name, address age, and telephone numbers in it. Write a program to read all the records and print those with address “NEPAL” and age >15

```
OPEN "INFO.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, A$, B$, C, D
IF UCASE$(B$) = “NEPAL” AND C >15 THEN PRINT A$, B$, C, D

WEND
CLOSE #1
END
```

13.A sequential data file “SALARY.DAT” contains the information, Employee-Code, Employee-Name, Post, Basic-Salary. Write a program to display those records whose Basic-salary is between 10000 to 15000 and Post is ‘OFFICER’.

```
OPEN "SALARY.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, E,, N$, P$, S
   IF UCASE$(P$) = “OFFICER” AND S >= 10000 AND S>= 15000
THEN     PRINT A$, B$, C, D
WEND
CLOSE #1
END
```

14. A data file name “EMP.DAT”, contains number of records having fields name, post and salary. Write a program to count total number of “Manager” in the data file. (hint: Manager is a post)

```
OPEN "EMP.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, N$, P$, S
   IF UCASE$(P$) = “MANAGER” THEN PRINT C = C + 1
WEND
PRINT “TOTAL NO.OF MANAGERS ARE”; C
CLOSE #1
END
```

15. A sequential data file “emp.dat” contains name, post and salary fields of information about employees. Write a program to display all the information of employees along with tax amount (tax is 15% of salary).

```
OPEN "EMP.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
INPUT #1, N$, P$, S
T = 15 / 100 * S
PRINT N$, P$, S, T
WEND
CLOSE #1
END
```

16.Write a program that reads the ”INFO.DAT” file that has several record such as name, address, gender, post, and salary .The program display those record whose sex is male and salary more than 10,000 and also the program counts the total number of records in that file.

```
OPEN "INFO.DAT" FOR INPUT AS #1
CLS
WHILE NOT EOF (1)
  INPUT #1, N$, A$, G$, P$, S
C = C + 1
IF UCASE$(G$)=”M” AND S >= 10000 THEN PRINT N$, A$, G$,
P$, S
WEND
PRINT “TOTAL NUMBER OF RECORDS=”; C
CLOSE #1
END
```

17. A sequential data file named “abc.dat” has several records having fields name, roll and class. Write a program to copy all the records of class 10 into a newly created file new.dat.

```
OPEN "ABC.DAT" FOR INPUT AS #1
OPEN "NEW.DAT" FOR OUTPUT AS #2
CLS
WHILE NOT EOF (1)
  INPUT #1, N$, R, C
IF C = 10 THEN WRITE #2, N$, R, C
WEND
CLOSE #1, #2 END
```

18.A sequential data file 'Student.dat' contains registration number, student name, address and date of birth of some students. Write a program that asks a user to input a registration number and displays the record of the particular registration if present.

```
OPEN “STUDENT.DAT” FOR INPUT AS #1
CLS
INPUT “Enter registration no. to be searched”; S
FLAG=0
WHILE NOT EOF(1)
INPUT #1, R, N$, A$, D$
IF S = R THEN
PRINT R, N$, A$, D$
FLAG=1
END IF
WEND
IF FLAG=0 THEN PRINT “Data not found”
CLOSE #1
END
```

19. WAP that asks a post of the employee and displays his/her records from the sequential data file "XYZ.REC" having fields Name, Post, Dept and Salary.

```
OPEN "XYZ.REC" FOR INPUT AS #1
CLS
INPUT "Enter post to be searched"; S$
FLAG=0
WHILE NOT EOF(1)
INPUT #1, N$, P$, D$, S
IF UCASE$(S$)=UCASE$(P$) THEN
PRINT N$, P$, D$, S
FLAG=1
END IF
WEND
IF FLAG=0 THEN PRINT "Data not found"
CLOSE #1
END
```

20. A data file named "record.dat" contains name, age and salary for n number of persons. Write a program to input a name to search data from a data file. If the data is not found, then display the message "Data not found in the list".

```
OPEN "RECORD.DAT" FOR INPUT AS #1
CLS
INPUT "Enter name to be searched"; S$
FLAG=0
WHILE NOT EOF(1)
INPUT #1, N$, A$, S
IF UCASE$(S$)=UCASE$(N$) THEN
PRINT N$, A$, S
FLAG=1
END IF
WEND
IF FLAG=0 THEN PRINT "Data not found"
CLOSE #1
END
```

PROGRAMMING IN C

1. Write a C program to calculate the average of three numbers.

```
#include<stdio.h>
#include<conio.h>
int main()
{
   int a,b,c;
   float d;
   printf("Enter first number: ");
   scanf("%d", &a);
   printf("Enter second number: ");
   scanf("%d", &b);
   printf("Enter second number: ");
   scanf("%d", &c);
   d=(a+b+c)/3.0;
   printf("Average of 3 numbers= %f",d);
   return 0;
    getch();
}
```

2. Write a C program to calculate the volume of a cylinder.

```
#include<stdio.h>
#include<conio.h>
int main()
{
float r, h, v;
printf("Enter radius and height: \n");
scanf("%f %f", &r, &h);
v=(22/7)*r*r*h;
printf("Volume of cylinder= %f",v);
return 0;
getch();
}
```

3. Write a C program to calculate distance travelled by a body.

```
#include<stdio.h>
#include<conio.h>
int main()
{
float u, a, s;
int t;
printf("Enter initial velocity: ");
scanf("%f", &u);
printf("Enter acceleration: ");
scanf("%f", &a);
printf("Enter time: ");
scanf("%d", &t);
s=(u*t)+(a*t*t)/2;
printf("Distance travelled by body= %f", s);
 return 0;
getch();
}
```

4. Write a C program using to get radius of circle and then print its area.

```
#include<stdio.h>
#include<conio.h>
void main()
{
float r, a;
printf("Enter radius: ");
scanf("%f", &r);
a=(22/7.0)*r*r;
printf("Area of circle= %f", a);
getch();
}
```

5. Write a C program to get temperature in celsius from the user and then print the temperature in fahrenheit.

```
#include<stdio.h>
#include<conio.h>
void main()
{
 float c, f;

    printf("Enter temperature in Celsius: ");
    scanf("%f", &c);
    f = ((c * 9)/5) + 32;
    printf("%f Celsius = %f Fahrenheit", c, f);
     getch();
}
```

6. Write a C program to get temperature in fahrenheit from the user and then print the temperature in celcius.

PROGRAMMING IN C

```
#include <stdio.h>
#include<conio.h>
int main()
{
   float c, f;
   printf("Enter temperature in Fahrenheit: ");
   scanf("%f", &f);
   c = (f - 32) * 5 / 9;
   printf("%f Fahrenheit = %f Celsius", f, c);
   return 0;
   getch();

}
```

7. Write a C program to convert USD(dollar) into NC (NEPALI currency)

```
#include<stdio.h>
#include<conio.h>
int main()
{
int d, n;
printf("Enter currency in dollar: ");
scanf("%d", &d);
n=d*132.14;
printf("$ %d = Rs. %d ", d, n);
 return 0;
getch();

}
```

8. Write a c program to display whether the given number is positive, negative or zero.

```
 #include<stdio.h>
#include<conio.h>
int main()
{
int n;
printf("Enter any number: ");
scanf("%d", &n);
if(n>0)
printf("%d is positive number",n);
else if(n<0)
printf("%d is negative number",n);
else
printf("%d is zero number",n);
return 0;
getch();

}
```

8. Write a C program to test whether the given number is completely divisible by 10 or not.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int n;
printf("Enter any number: ");
scanf("%d", &n);
if(n%10==0)
printf("%d is divisible by 10",n);
else
printf("%d is not divisible by 10",n);
return 0;
getch();

}
```

9. Write a c program to check whether the given number is divisible by 3 and 5 or not.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int n;
printf("Enter any number: ");
scanf("%d", &n);
if(n%3==0 && n%5==0)
printf("%d is divisible by both 3 and 5",n);
else
printf("%d is not divisible by both 3 and 5",n);
getch();

}
```

10. Write a C program to display the smaller among two numbers.

```
 #include<stdio.h>
#include<conio.h>
int main()
{
int a,b;
printf("Enter any two numbers:\n ");
scanf("%d %d", &a, &b);
if(a<b)
printf("The smaller number is %d", a);
```

```
else
printf("The smaller number is %d", b);
return 0;
getch();
}
```

11. Write a C program to input three different and find the greatest number.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int a,b,c;
printf("Enter any three numbers:\n ");
scanf("%d %d %d" , &a, &b, &c);
if(a>b && a>c)
printf("The greatest number is %d", a);
else if(b>a && b>c)
printf("The greatest number is %d", b);
else
printf("The greatest number is %d", c);
getch();
}
```

12. Write a c program to display middle number among three different numbers.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int a,b,c;
printf("Enter any 3 different numbers:\n ");
scanf("%d %d %d" , &a, &b, &c);
if((a>b && a<c) || (a<b && a>c))
printf("The middle number is %d", a);
else if((b>a && b<c) || (b<a && b>c))
printf("The middle number is %d", b);
else
printf("The middle number is %d", c);
return 0;
getch();
}
```

13. Write a C program to check whether the given number is odd or even.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int n;
printf("Enter any number: ");
scanf("%d", &n);
if(n%2==0)
printf("%d is even number", n);
else
printf("%d is odd number", n);
return 0;
getch();
}
```

14. Write a c program to check whether the given year is leap year or not.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int y;
printf("Enter the year: ");
scanf("%d", &y);
if((y%4==0) && (y%100 !=0) || (y%400==0))
printf("%d is leap year", y);
else
printf("%d is not leap year", y);
return 0;
getch();
}
```

15. Write a c program to check whether the given number is perfect square or not.

```
#include<stdio.h>
#include<conio.h>
#include<math.h> // for sqrt () function
int main()
{
int n, b;
float a;
printf("Enter any number: ");
scanf("%d", &n);
a=sqrt(n);
b=a; // a is float type stored in int type b
```

```
if(a==b)
printf("%d is a perfect square number", n);
else
printf("%d is not a perfect square number",
n);
return 0;
getch();
}
```

16. Write a C program to print the following series 1 4 9 16 25 …. to 10^{th} terms.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i, a=1,m;
for(i=1;i<=10;i=i+1)
{
   m=a*a;
   printf("%d \n",m );
   a=a+1;
}
getch();
}
```

17. Write a C program to print the following series 1 8 27 64 125 …. to 10th terms.

```
#include<stdio.h>
#include<conio.h>
void main()
{
int i, a=1,m;
for(i=1;i<=10;i=i+1)
{
   m=a*a*a;
   printf("%d \n",m );
   a=a+1;
}
getch();
}
```

18. Write a C program to print the series 1 1 2 3 5 8 13 21 34 ….. upto ten terms.

```
//Fibonacci series
#include<stdio.h>
#include<conio.h>
int main()
{
int a,b,c,i;
a=1;
b=1;
for (i=1;i<=10;i=i+1)
{
   printf("%d \n", a);
   c=a+b;
   a=b;
   b=c;
}
return 0;
getch();
}
```

19. Write a C program to print sum of natural numbers from 10 to 50.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int i, sum=0;
i=10;
while(i<=50)
{
  sum=sum+i;
   i=i+1;
}
printf("sum is %d \n", sum);
return 0;
}
```

20. Write a C program to print the first ten odd numbers with their sum.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int i, a,sum=0;
i=1;
a=1;
while (i<=10)
```

```
{
   printf("%d \n", a);
   sum=sum+a;
   a=a+2;
   i=i+1;
}
printf(" sum is %d \n", sum);
return 0;
getch();
}
```

21. Write a C program to print the first twenty even numbers with their sum.

```
 #include<stdio.h>
#include<conio.h>
int main()
{
int i, a,sum=0;
i=1;
a=2;
while (i<=20)
{
   printf("%d \n", a);
   sum=sum+a;
   a=a+2;
   i=i+1;
}
printf(" sum is %d \n", sum);
return 0;
getch();
}
```

22. Write a C program to print the sum of digits of a given number.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int n, s, r;
s=0;
printf("Enter any number: ");
scanf("%d", &n);
while (n !=0)
{
   r=n%10;
   s=s+r;
   n=n/10;
}
printf("Sum of digits= %d",s);
return 0;
getch();
}
```

23. Write a c program to reverse the given digits.

```
 #include<stdio.h>
#include<conio.h>
int main()
{
int n, s, r;
s=0;
printf("Enter any number: ");
scanf("%d", &n);
while(n ! =0)
{
   r=n%10;
   s=s*10+r;
   n=n/10;
}
printf("Reverse digits= %d",s);
return 0;
getch();
}
```

24. Write a c program to check whether the given number is prime or not.

```
 #include<stdio.h>
#include<conio.h>
int main()
{
int n, i=1, c=0;
printf("Enter any number: ");
scanf("%d", &n);
for(i=1;i<=n;i=i+1)
{
  if(n%i==0)
   c=c+1;
}
if(c==2)
   printf("%d is prime number", n);
else
   printf("%d is not prime number", n);
 return 0;
getch();
}
```

PROGRAMMING IN C

25. Write a C program to print the multiplication table of any input number up to tenth terms.

```
#include<stdio.h>
#include<conio.h>
int main()
{
int n, i=1, c=0;
printf("Enter any number: ");
scanf("%d", &n);
for(i=1;i<=10;i=i+1)
{
  c=n*i;
  printf("%d X %d = %d \n", n,i,c);
}
 return 0;
getch();
}
```