Name: Rohitasw Choudhary

Branch: EE

Roll No.: 05

1.) DRAW FLOW CHART AND ALGORITHM ON THE FOLLOWINGS:

A. ADDITION OF TWO NO.

Ans.: Algorithm to add two numbers entered by user.

Step 1: Start

Step 2: Declare variables num1, num2 and sum.

Step 3: Read values num1 and num2.

Step 4: Add num1 and num2 and assign the result to sum.

sum ← num1+num2

Step 5: Display sum

Step 6: Stop

C program to demonstrate this algo.:

```
// program to get sum of two numbers

#include

int main()
{
int num1, num2, sum;
```

```
printf("Enter the numbers you want to sum\n\n");

printf("enter the first number:\n");
scanf("%d",&num1);

printf("\nenter the second number:\n");
scanf("%d",&num2);

sum = num1+num2;

printf("\nsum of two numbers %d and %d is  %d",num1, num2, sum);

return 0;
 }
```

B. MULTIPLICATION OF THREE NO.

Ans.: Multiplication to add two numbers entered by user.

Step 1: Start

Step 2: Declare variables num1, num2 and product.

Step 3: Read values num1 and num2.

Step 4: Add num1 and num2 and assign the result to product.

product← num1*num2

Step 5: Display product

Step 6: Stop

C program:

```
# include

int main()
{
int num1, num2, product;

printf("\nEnter the value of the first number: \n");
scanf("%d", &num1);
printf("\nEnter the value of the second number: \n");
scanf("%d", &num2);

product = num1*num2;

printf("Product of the two numbers %d and %d is %d\n", num1, num2,
product);

return 0;
 }
```

C. CONVERSATION OF FARENHITE TO CELCIUS.

Anc.: Algorithm:

Step 1: Read temperature in Fahrenheit.

Step 2: Calculate temperature with formula C=5/9*(F-32).

Step 3: Print C

C program:

```
#include

int main()
{
float celsius, fahrenheit;

 "/Input temperature in fahrenheit "/
printf("Enter temperature in Fahrenheit: ");
scanf("%f", &fahrenheit);

 "/Fahrenheit to celsius conversion formula "/
celsius = (fahrenheit - 32) * 5  /9;

 "/Print the value of celsius "/
printf("%.2f Fahrenheit = %.2f Celsius", fahrenheit, celsius);

return 0;
 }
```

D. AREA AND PERIMETER OF RECTANGLE

Ans.: Algorithm :

Step 1: START
Step 2: ACCEPT THE LENGTH OF RECTANGLE SAY LENGTH
Step 3: ACCEPT THE BREADTH OF RECTANGLE SAY BREADTH
Step 4: COMPUTE THE PERIMETER WITH THE HELP FORMULA
PERIMETER=2 * (L + B)
Step 5: DISPLAY PERIMETER
Step 6: COMPUTE THE AREA WITH THE HELP FORMULA
AREA=LENGTH*BREADTH
Step 7:DISPLAY AREA
Step 8: STOP

C program:

```
#include

int main()
{
float length, breadth, perimeter, area;

printf("Enter the length of rectangle: ");
scanf("%f", &length);
printf("Enter the breadth of rectangle: ");
```

```
scanf("%f", &breadth);

perimeter = 2*(length+breadth);

printf("\n\nPeremeter of rectangle is: %f ",perimeter);

area = length*breadth;

printf("\nArea of rectangle is: %f ",area);

return area;

}
```

E. SWAP OF TWO NO. USING THIRD VARIABLE

Anc.: Algorithm:

step 1:Declare a variable x, y and temp as integer

step 2:Read two numbers x and y

step 3:temp = x

step 4:x=y

step 5:y=temp

step 6:Print x and y

C program:

```
#include

int main()
{
int x, y;
printf("Enter Value of x: ");
scanf("%d", &x);
printf("\nEnter Value of y: ");
scanf("%d", &y);

int temp = x;
x = y;
y = temp;

printf("\nAfter Swapping: x = %d, y = %d", x, y);
return 0;

 }
```

F. SWAP OF TWO NO WITHOUT USING THIRD VARIABLE

Ans.: Algorithm:

STEP 1: START

STEP 2: ENTER A, B

STEP 3: PRINT A, B

STEP 4: A = A + B

STEP 5: B= A - B

STEP 6: A =A - B

STEP 7: PRINT A, B

STEP 8: END

C program:

```
#include
int main()
{
int a  b;
printf("Enter numbers to swap ");
scanf("%d %d", &a, &b);

printf("numbers before swap a=%d b=%d",a,b);
a = a + b;   a=30 (10+20)                    //
b = a - b;   b=10 (30-20)                    //
a = a - b;   a=20 (30-10)                    //
printf("\nNumbers after swap a=%d b=%d", a, b);
return 0;
 }
```

6. FIND LARGEST OF THREE NO.

Anc.: Using ternary operator method.

Algorithm:

step 1: Declare a variable a, b, c and largest as integer

step 2: Read the number a, b and c

step 3: max = a > b && a > c ? a : (b > c ? b : c)

step 4: print max

C program:

```
#include

int main() {
int a, b, c, max;
printf("Enter three numbers:");
printf("\n\ta:");
scanf("%d", &a);
printf("\tb:");
scanf("%d", &b);
printf("\tc:");
scanf("%d", &c);
  //Using ternary operator to evaluate
max = a > b && a > c ? a : (b > c ? b : c);

printf("%d is the largest number amoung %d, %d and %d.", max, a, b, c);

 }
```

2. WHAT IS ALGORITHM?

Anc.: Algorithm:
It refers to a set of rules/instructions that step-by-step
define how a work is to be executed upon in order to get the expected
results.

Advantages of Algorithms:
a. It is easy to understand.
b. Algorithm is a step-wise representation of a solution to a given problem
c. In Algorithm the problem is broken down into smaller pieces or steps
hence, it is easier for the programmer to convert it into an actual progra

3. WHAT IS FLOWCHART?

Anc.:Flowchart is a graphical representation of an algorithm.
Programmers often use it as a program-planning tool to solve a problem.
It makes use of symbols which are connected among them to indicate the
flow of
information and processing.