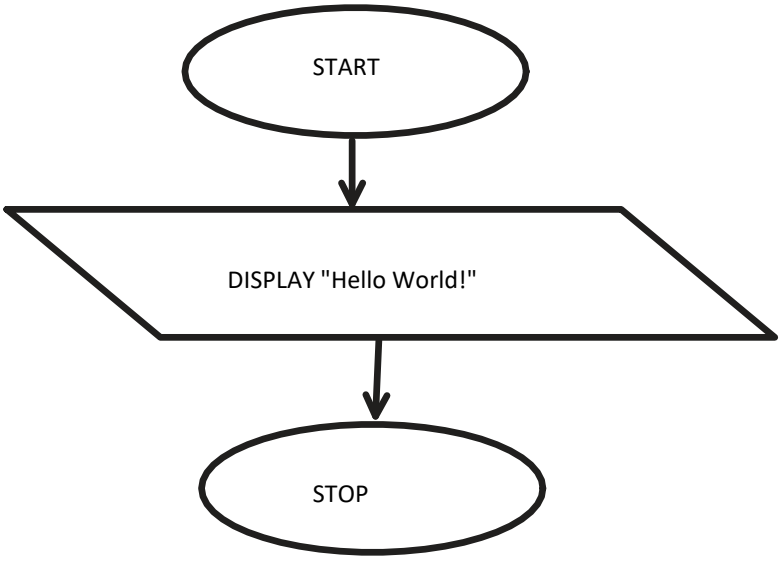
Excersice 01

Tuesday, May 7, 2024 7:07 PM

To display the message :Hello World!

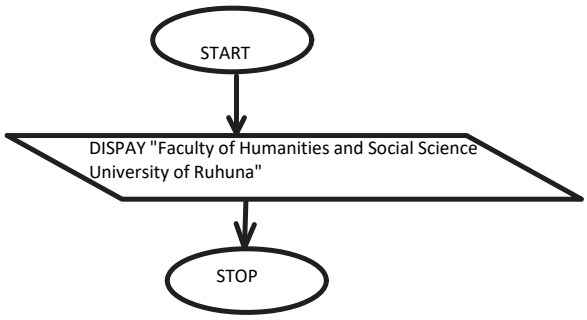



```
PROGARAM : SAY HELLO WORLD!

BEGIN
        DISPLAY "Hello World!"
END
```

```
//Program : Display "Hello world!"

#include <stdio.h>

void main(){
   printf("Hello World!");
}
```

Execersice 02

Tuesday, May 7, 2024 7:11 PM

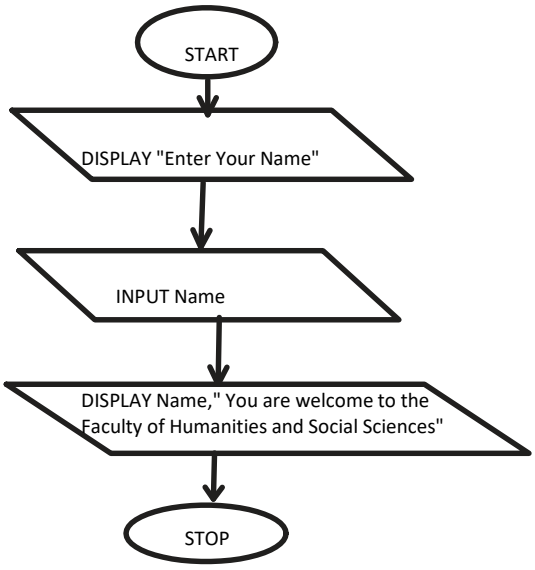



```
/* Program :   " Department of Information Technology
               Faculty of Humanities and Social Science
               University of Ruhuna "

Display this message.*/

#include <stdio.h>

void main(){
   printf("Department of Information Technology\n"); // ------------------------> \n - newline
   puts("Faculty of Humanities and Social Science"); //------------------------> puts - print in new line
   printf("University of Ruhuna.");
}
```

```
Program :   " Department of Information Technology
            Faculty of Humanities and Social Science
            University of Ruhuna "
BEGIN
        DISPAY "Faculty of Humanities and Social Science
        University of Ruhuna"
END
```

Excercise 03

Tuesday, May 7, 2024 7:18 PM

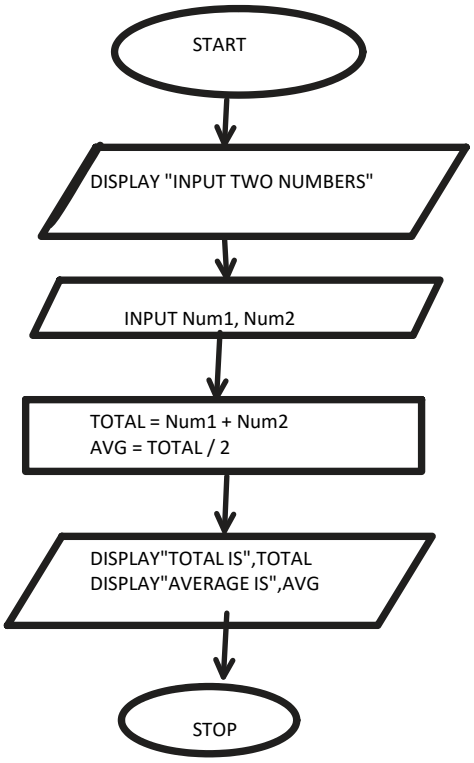



```
/* Program : To ask to input name and then display the following message.
            " …….. You are welcome to the Faculty of Humanities and Social Sciences,
University of Ruhuna. " */


#include <stdio.h>


void main(){

   //variables(local data)
   char name[50]; //----------------------> size of array

   printf("Enter Your Name : ");
   scanf("%s",&name); //--------------------> get inputs
   printf("%s, You are welcome to the Faculty of Humanities and Social Sciences,\n
              University of Ruhuna.", name); //-------------------> %s - String values

   return 0;
}
```

```
BEGIN
DISPLAY "Enter Your Name"
INPUT Name
DISPLAY Name," You are welcome to the
        Faculty of Humanities and Social Sciences"
END
```

Excersice 04

Tuesday, May 7, 2024 7:28 PM

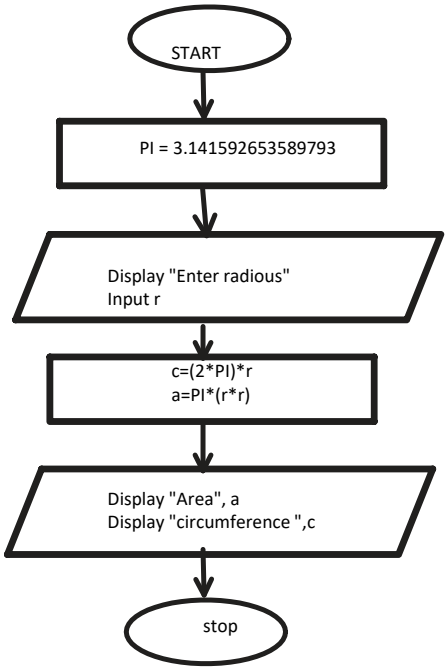



```
// Program : input two numbers and thereafter calculate and display the total and average

#include <stdio.h>

int main(void){

//local data :
   int num1,num2,total;
   double avg;

   printf("Enter first number : ");
   scanf("%i",&num1);
   printf("Enter second number : ");
   scanf("%i",&num2);

   //calculate total
   total = num1 + num2;

   //calculate average
   avg = total / 2;

   printf("Total is : %i\n",total);
   printf("Average is : %f\n",avg);

   return 0;
}
```

```
Program : input two numbers and thereafter calculate and
          display the total and average

local data :  Num1, Num2, TOTAL : INTEGER
              AVG : REAL

BEGIN
      DISPLAY "INPUT 2 NUMBERS"
      INPUT Num1, Num2
      TOTAL = (Num1+ Num2)/2
      AVG = TOTAL / 2
      DISPLAY"TOTAL IS",TOTAL
      DISPLAY"AVERAGE IS",AVG
END
```

Exsersice 05

Tuesday, May 7, 2024 7:49 PM



Program : calculate area and circumference

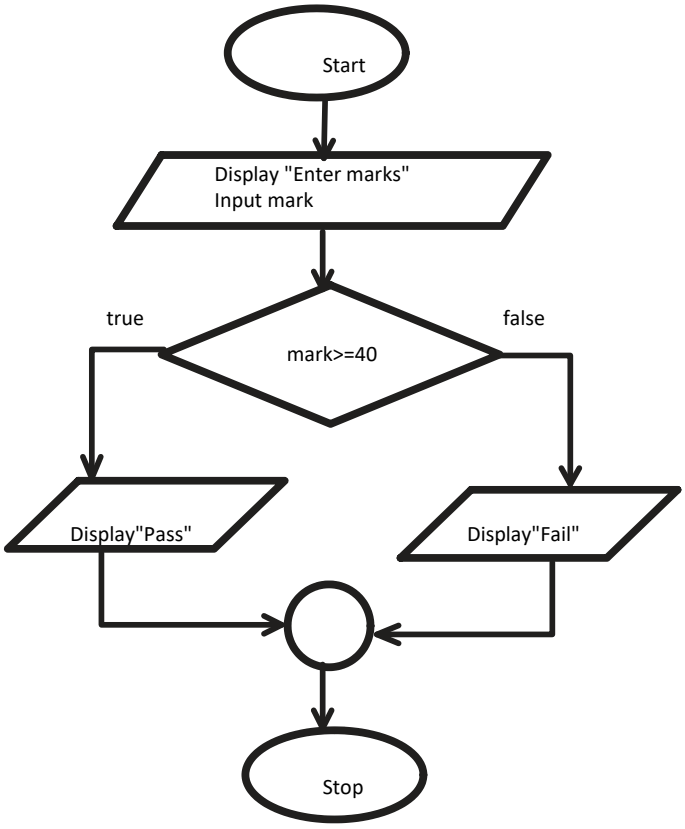
Local data : PI : real value 3.1415
r, a, c : real

Begin
PI = 3.141592653589793
Display "Enter radious"
Input r
c=(2*PI)*r
a=PI*(r*r)
Display "Area", a
Display "circumference ",c
End

```
// Program : input radius and thereafter calculate and display the area and circumference of circle.

#include <stdio.h>

int main(void){

   //local data :
   double pi = 3.141592,radious,circumference,area; //----------------------------> if you get and use Double data type "%lf" symbol


   printf("Enter radius using Cm : ");
   scanf("%lf", &radious);

   circumference = ((2 * pi) * radious);
   area = (pi * (radious * radious));

   printf("Area : %.2lf square centimeters\n", area); //---------------------------------> %.2f means have two decimal positions (ex: %.3lf means three decimal points)
   printf("Circumference : %.2lf Cm\n", circumference);
   return 0;
}
```

Exsersice 06

Tuesday, May 7, 2024 7:49 PM

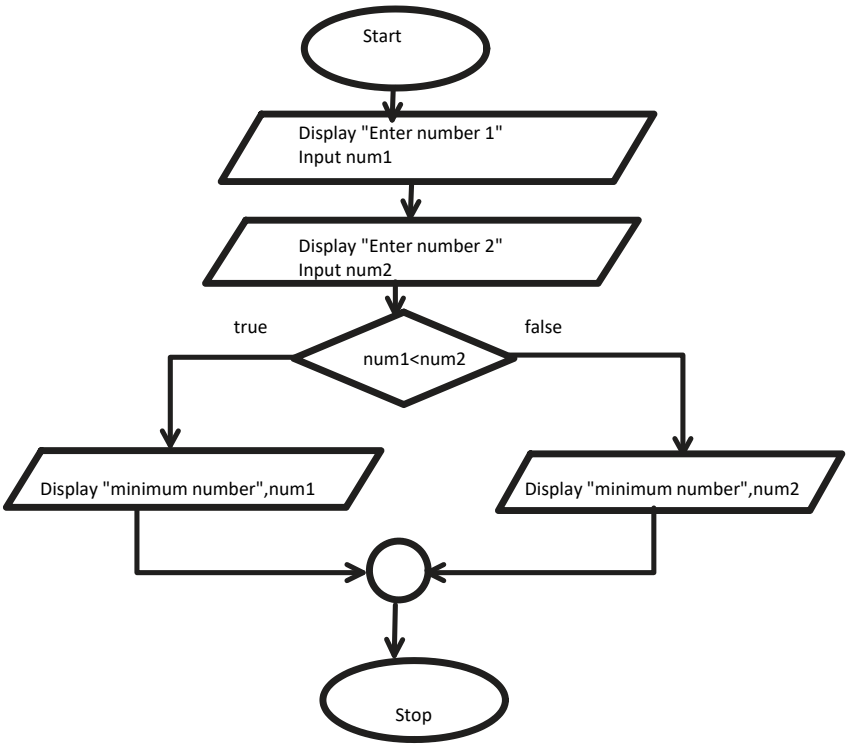



```
Program : find pass or fail

Local data : mark : integer

Begin
        Display "Enter marks"
        Input mark
        IF(mark>=40) THEN
                Display"Pass"
        ELSE
                Display"Fail"
        END IF
END
```

```
//Program : input mark and display whether student is pass or not.

#include <stdio.h>

int main(void){

   //local data
   int marks;

   printf("Enter marks : ");
   scanf("%i",&marks);

   if(marks>=40){

      printf("Passed");

   }else{

      printf("Failed");

   }


   return 0;
}
```

Exsersice 07

Tuesday, May 7, 2024 7:49 PM

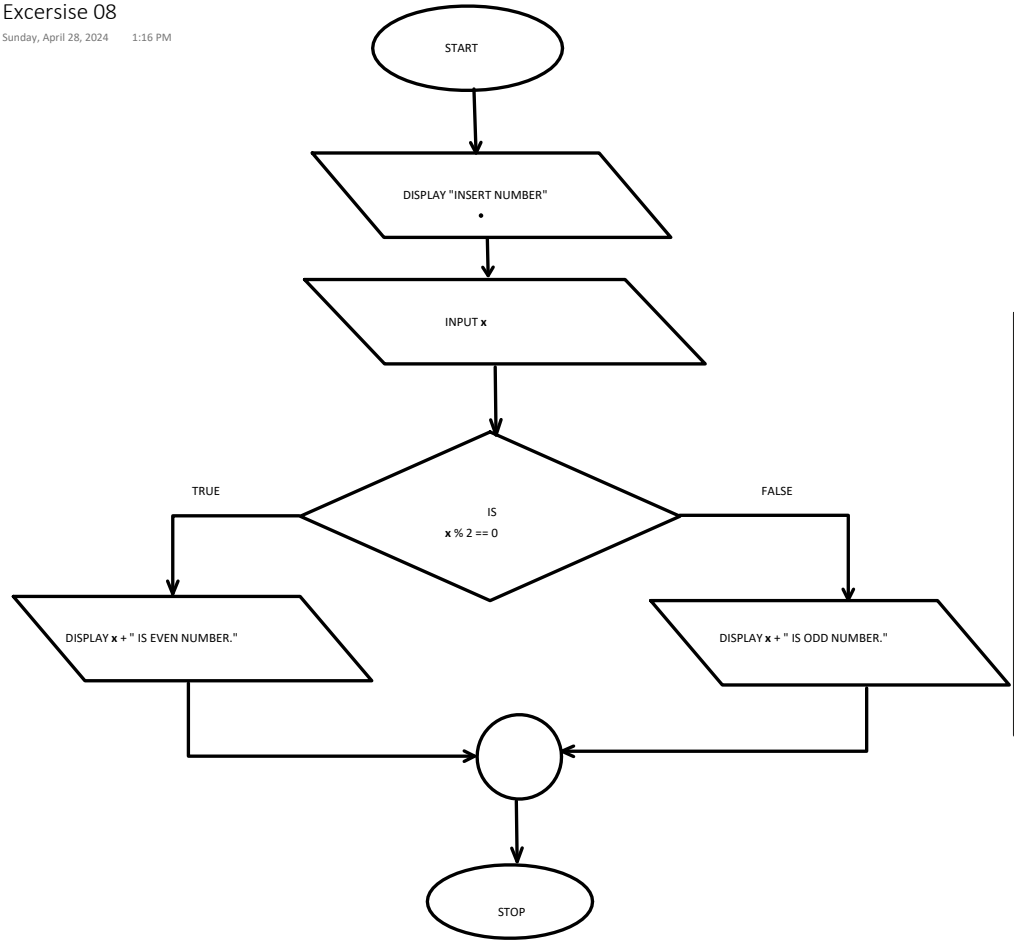



```
Program : find minimum number

Local data : num1, num2 : integer

Begin
        Display "Enter number 1"
        Input num1
        Display "Enter number 2"
        Input num2
        IF(num1<num2) THEN
                Display "minimum number",num1
        ELSE
                Display "minimum number",num2
        END IF
END
```

```
//Program : input two numbers and thereafter evaluate and display the
minimum value.

#include <stdio.h>

int main(void){

   //local data
   int num1,num2;

   printf("Enter number 1 : ");
   scanf("%i",&num1);

   printf("Enter number 2 : ");
   scanf("%i",&num2);

   if(num1 < num2){

      printf("Minimum value is %i",num1);
   }else{
      printf("Minimum value is %i",num2);
   }


   return 0;
}
```

Excersise 08

Sunday, April 28, 2024 1:16 PM



PROGRAM : INPUT A NUMBER AFTER THAT CHECK THIS NUMBER IS EVEN OR ODD.

LOCAL DATA :

x : INT

BEGIN

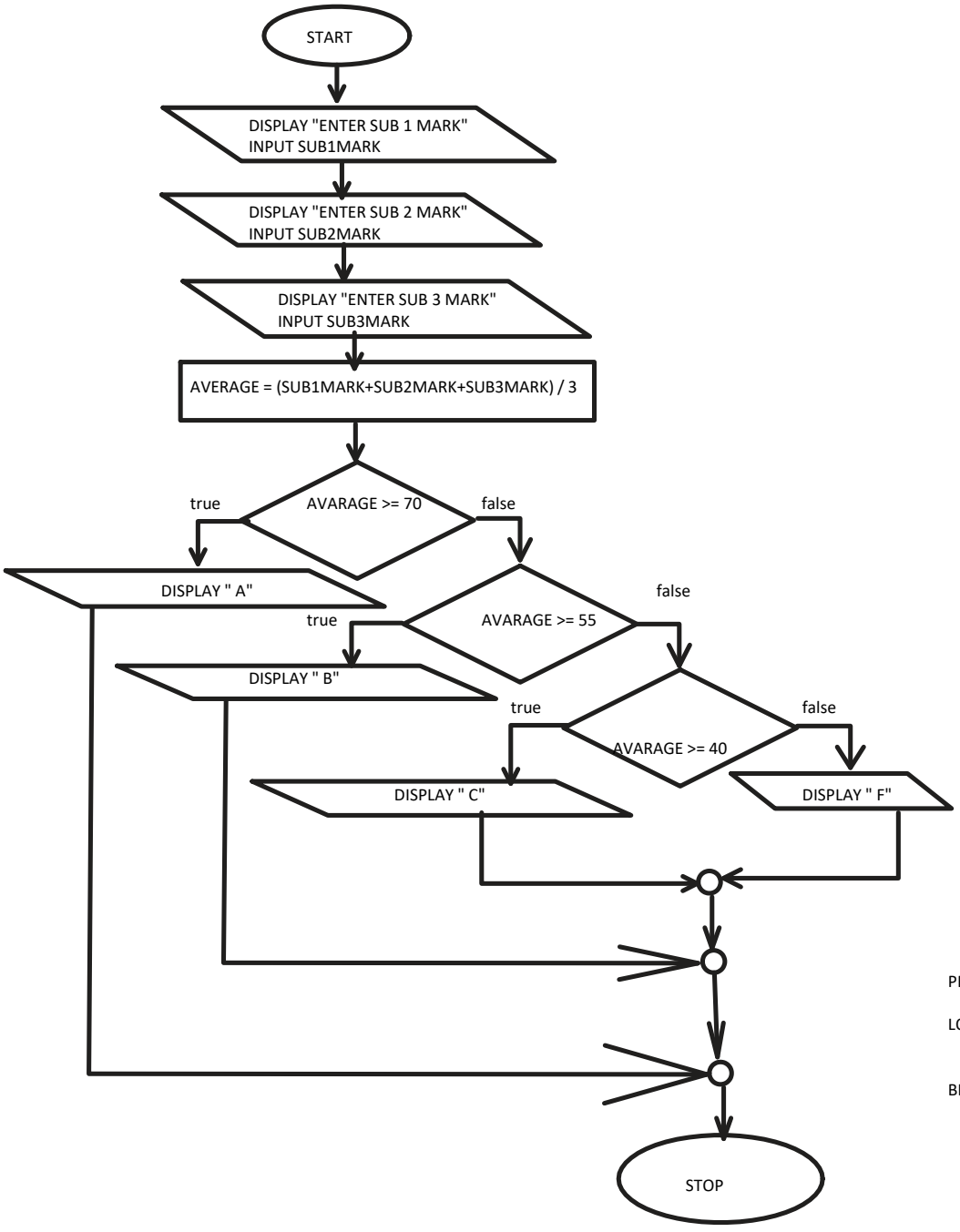
DISPLAY "INSERT NUMBER"
INPUT x
IF (x % 2 == 0) THEN
DISPLAY x + " IS EVEN NUMBER."
ELSE
DISPLAY x + " IS ODD NUMBER."
ENDIF

END

```
//Program :  input a number and thereafter display whether input number is
odd or even

#include <stdio.h>

int main(void){

  //local data
  int number;

  printf("Enter number : ");
  scanf("%i",&number);

  if(number % 2 == 0){

    printf("%i is even. ",number);

  }else{
    printf("%i is odd. ",number);
  }


  return 0;
}
```

Excersice 09

Tuesday, May 7, 2024 5:01 PM

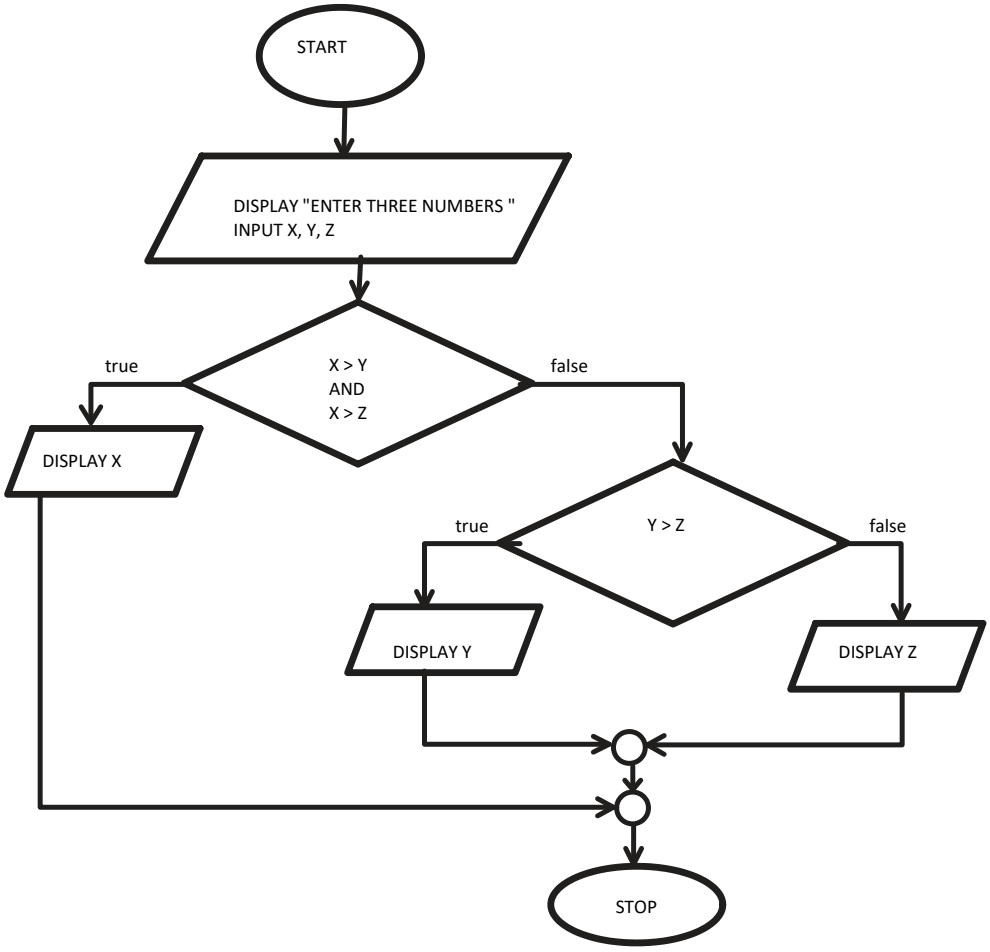



```
/*Program : The result of an examination is issued after calculating the average of three different subjects. The
grades of the examination are categorized into 4 groups as follows,
   Average> = 70 -> “A”
   70 > Average > = 55 -> “B”
   55 > Average > = 40 -> “C”
   Average < 40 -> “F”
Write a program to implement the above problem. The program must be able to read marks for three subjects from the keyboard.*/


#include <stdio.h>

int main(void){
   //local data
   int sub1_mark, sub2_mark, sub3_mark;
   double avg;

   printf("Enter Subject 1 mark : ");
   scanf("%i",&sub1_mark);
   printf("Enter Subject 2 mark : ");
   scanf("%i",&sub2_mark);
   printf("Enter Subject 3 mark : ");
   scanf("%i",&sub3_mark);

   avg = (sub1_mark + sub2_mark + sub3_mark)/3;

   if(avg >= 70){

      printf("A");
   }else if(avg >= 55){

      printf("B");
   }else if(avg >= 40){

      printf("C");
   }else{

      printf("F");
   }


   return 0;
}
```

```
PROGRAM : FIND GRADES

LOCAL DATA : SUB1MARK, SUB2MARK, SUB3MARK : INTEGER
             AVERAGE : REAL

BEGIN
      DISPLAY "ENTER SUB 1 MARK"
      INPUT SUB1MARK
      DISPLAY "ENTER SUB 2 MARK"
      INPUT SUB2MARK
      DISPLAY "ENTER SUB 3 MARK"
      INPUT SUB3MARK
      AVERAGE = (SUB1MARK+SUB2MARK+SUB3MARK) / 3
      IF(AVARAGE >= 70) THEN
            DISPLAY "A"
      ELSE IF(AVARAGE >= 55) THEN
            DISPLAY "B"
      ELSE IF(AVARAGE >= 40) THEN
            DISPLAY "C"
      ELSE
            DISPLAY "F"
      END IF
END
```

Exsersice 10

Tuesday, May 7, 2024 7:49 PM




```
// Program : find max number within three numbers

#include <stdio.h>

int main(void){

   //local data
   int x,y,z;

   printf("Enter number : ");
   scanf("%i",&x);
   printf("Enter number : ");
   scanf("%i",&y);
   printf("Enter number : ");
   scanf("%i",&z);

   if(x>y && x>z){
      printf("max number : %i",x);
   }else if(y>z){
      printf("max number : %i",y);
   }else{
      printf("max number : %i",z);
      }
   return 0;
}
```

Program : find max number

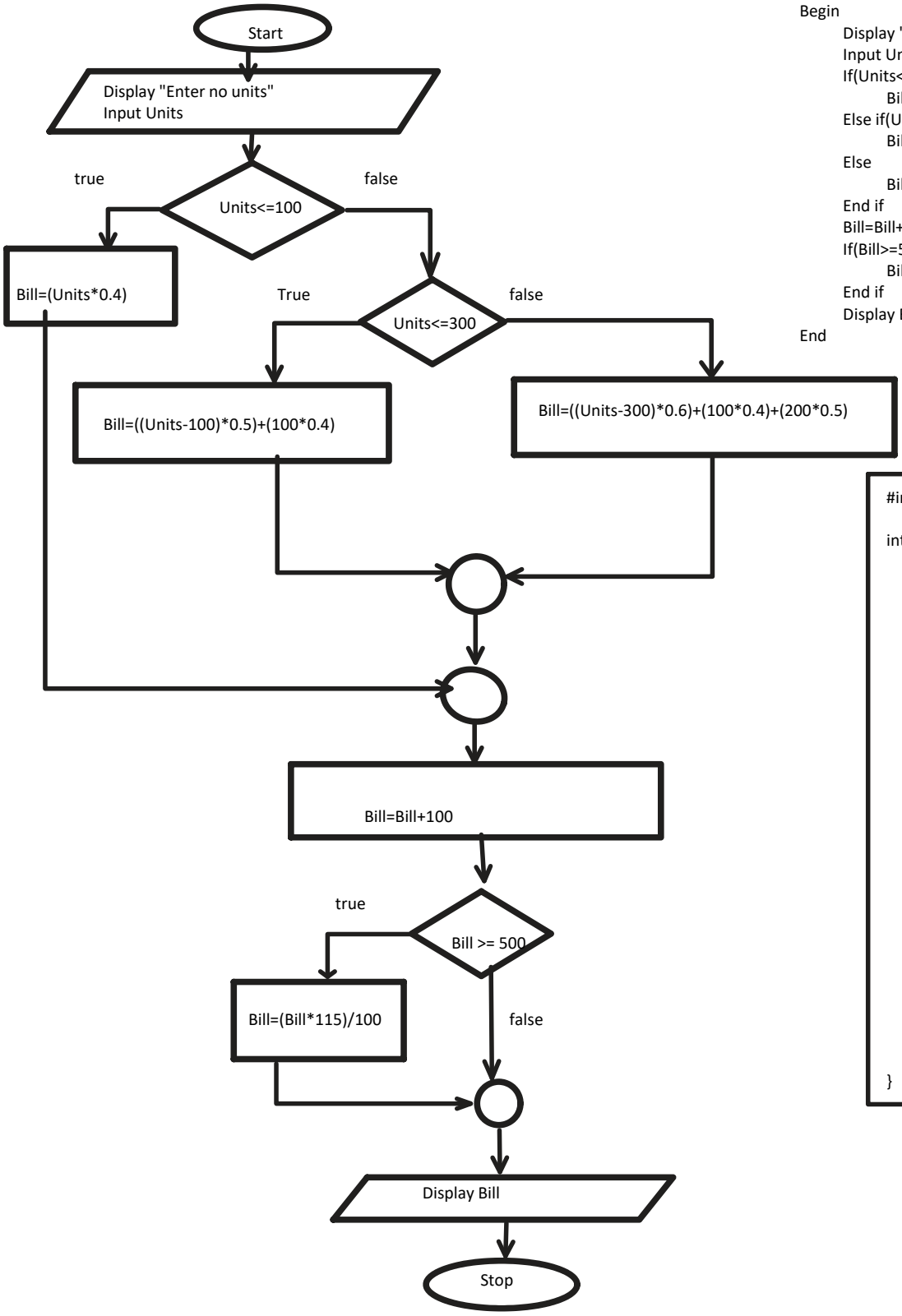
Local data :x,y,z : integer

```
Begin
DISPLAY "ENTER THREE NUMBERS "
INPUT X, Y, Z
IF(X > Y AND X > Z) THEN
        DISPLAY X
ELSE IF(Y>Z) THEN
        DISPLAY Y
ELSE
        DISPLAY Z
END IF
END
```

Exercise 11

Tuesday, May 7, 2024 11:07 PM

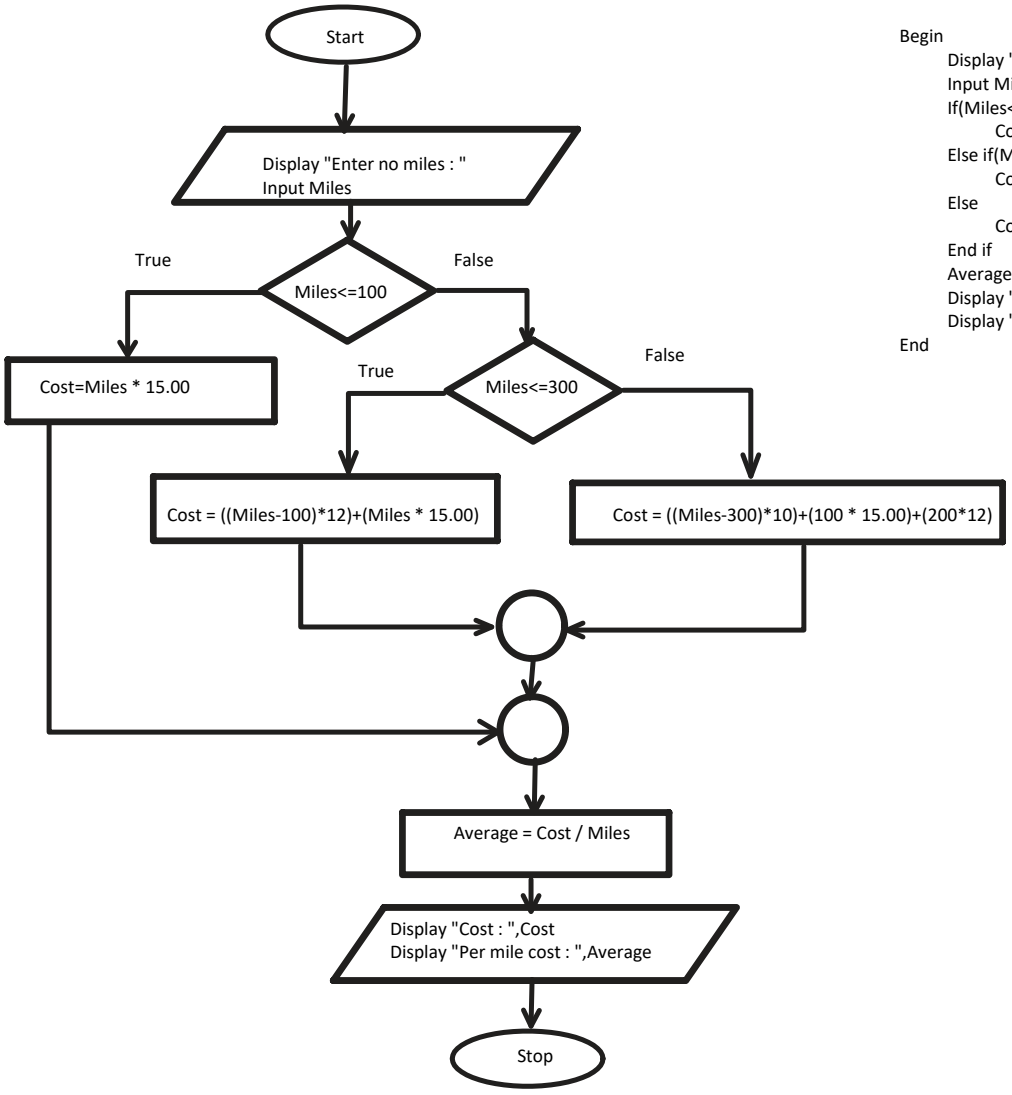
```
Program : calculate electricity bill
Local data : Units, Bill : real

Begin
        Display "Enter no units"
        Input Units
        If(Units<=100) Then
                Bill=(Units*0.4)
        Else if(Units<=300) Then
                Bill=((Units-100)*0.5)+(100*0.4)
        Else
                Bill=((Units-300)*0.6)+(100*0.4)+(200*0.5)
        End if
        Bill=Bill+100
        If(Bill>=500) Then
                Bill=(Bill*115)/100
        End if
        Display Bill
End
```




```c
#include <stdio.h>

int main(void){

   //local data
   double units, bill;

   printf("Enter no Units : ");
   scanf("%lf",&units);

   if(units <= 100){
      bill = (units * 0.4);
   }else if(units <= 300){
      bill = ((units-100)*0.5)+(100*0.4);
   }else{
       bill = ((units-300)*0.6)+(200*0.5)+(100*0.4);
   }
   bill = bill + 100;

   if(bill >= 500){

      bill = (bill * 115) / 100;
   }

   printf("Bill : Rs.%.2lf",bill);

   return 0;
}
```

Exercise 12

Wednesday, May 8, 2024 10:30 PM




```
Program : calculate cost and average

Local data : Miles, Cost, Average : real

Begin
        Display "Enter no miles : "
        Input Miles
        If(Miles<=100) Then
                Cost=Miles * 15.00
        Else if(Miles<=300) Then
                Cost = ((Miles-100)*12)+(Miles * 15.00)
        Else
                Cost = ((Miles-300)*10)+(100 * 15.00)+(200*12)
        End if
        Average = Cost / Miles
        Display "Cost : ",Cost
        Display "Per mile cost : ",Average
End
```

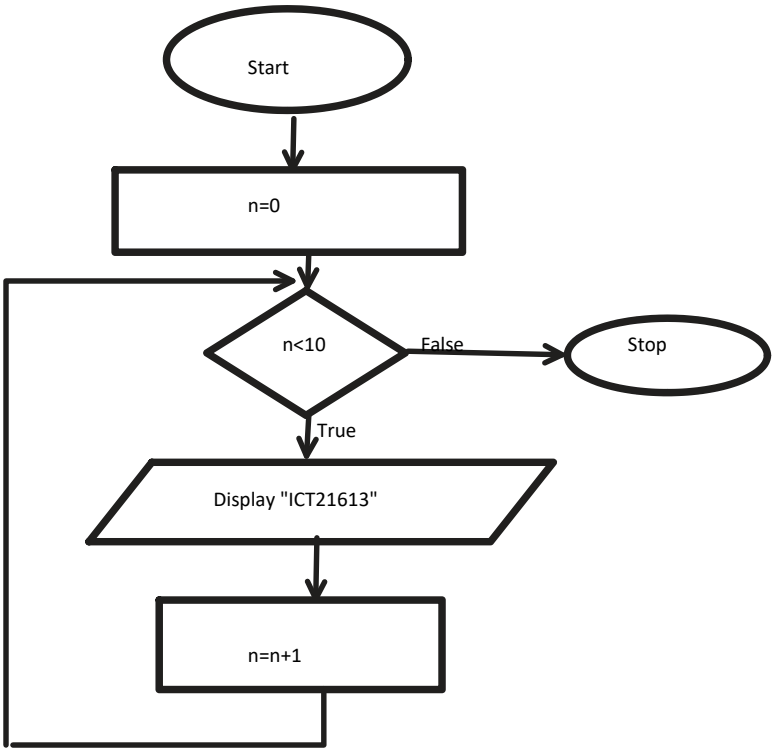
```
/* Program : The cost per mile for a rented
           vehicle is Rs.15.00 for the first 100
           miles. Rs.12.00 for the next 200
           miles and Rs.10.00 for all miles in
           excess of 300 miles. Write a
           program that determines the total
           cost and the average cost per mile
           for a given number of miles*/

#include <stdio.h>

int main(void){

   //local data
   double Miles, Cost, Average;

   printf("Enter no miles : ");
   scanf("%lf",&Miles);

   if(Miles<=100){
      Cost=Miles * 15.00;

   }else if(Miles<=300){
      Cost = ((Miles-100)*12)+(100 * 15.00);

   }else{
      Cost = ((Miles-300)*10)+(100 * 15.00)+(200 * 12);

   }

   Average = Cost / Miles;

   printf("Cost : Rs.%.2lf\n",Cost);
   printf("Per mile cost : Rs.%.2lf",Average);

   return 0;
}
```

Exercise 13

Wednesday, May 8, 2024 11:08 PM

Exercise 14

Wednesday, May 8, 2024 11:44 PM

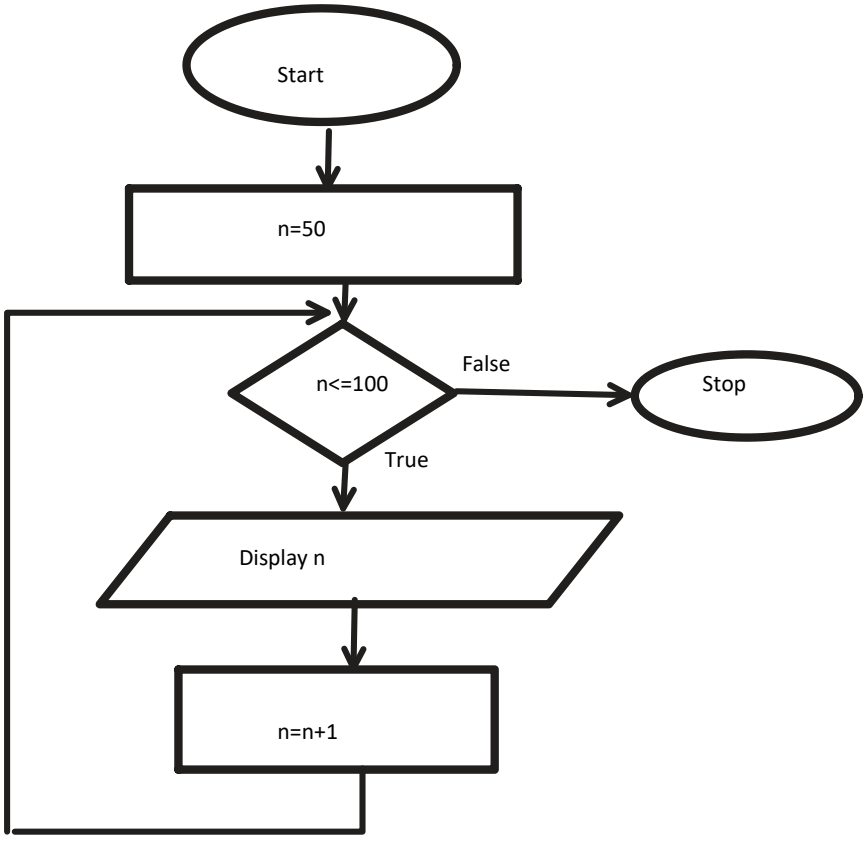



```
Program : print a message 10 times

Local data : n : integer

Begin
        n=0
        For n=0 to 9 step +1
                Display "ICT21613"
                n=n+1
        End for
End
```

```
//Program : print the word “ICT21613” in 10 times

#include <stdio.h>

int main(void){

   //local data
   int n;

   //for loop
   for(n = 0; n<10; n++ ){
      printf("ICT21613\n");
   }

   return 0;
}
```

Exercise 15

Wednesday, May 8, 2024 11:44 PM

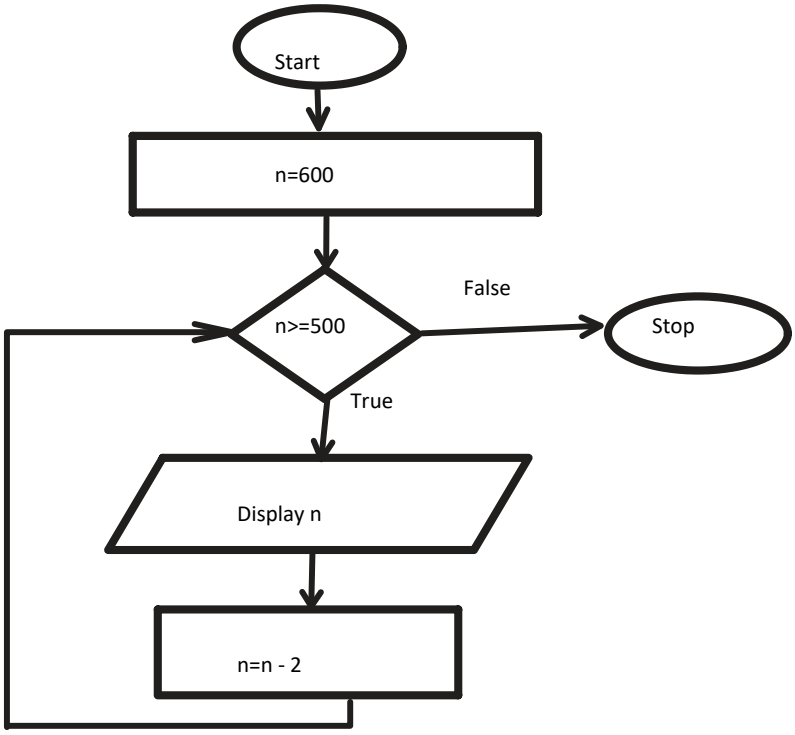



```
Program : print numbers 50 to 100

Local data : n: integer

Begin
        For n=50 to 100 step +1
                Display n
        End for
End
```

```
//Program : Print numbers from 50 to 100

#include <stdio.h>

int main(void){

   //local data
   int n;

   //for loop
   for(n = 50; n<=100; n++){
      printf("%i\n",n);
   }

   return 0;
}
```

Exercise 16

Wednesday, May 8, 2024 11:53 PM



Program : Display even numbers from 600 to 500

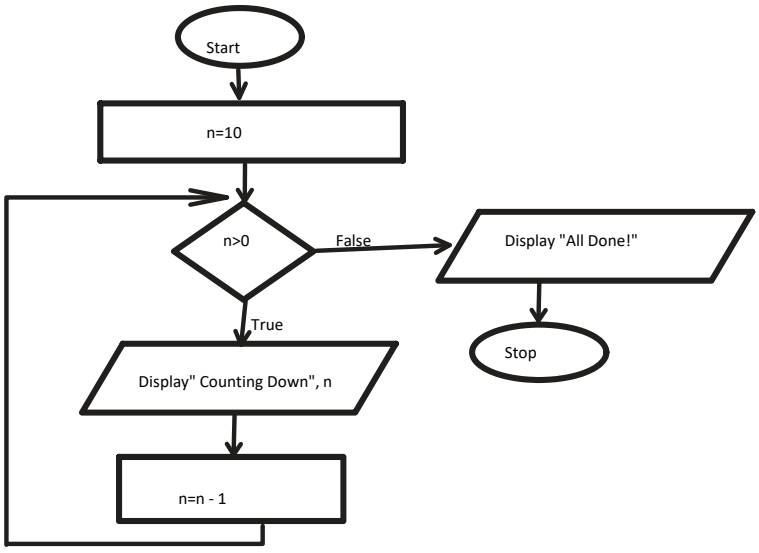
Local data : n: integer

```
Begin
        n=600
        While n>=500 Do
                Display n
                n=n-2
        End Do
End
```

```
//Program :  display even numbers from 600 to 500.

#include <stdio.h>

int main(void){

   //local data
   int n = 600;

   while(n>=500){

     printf("%i \n",n);
     n-=2;

   }


   return 0;
}
```

Exercise 17

Thursday, May 9, 2024 12:19 AM



Program : To get the following output
Counting Down 10
Counting Down 9
. .
Counting Down 1
All Done

Local data : n : int

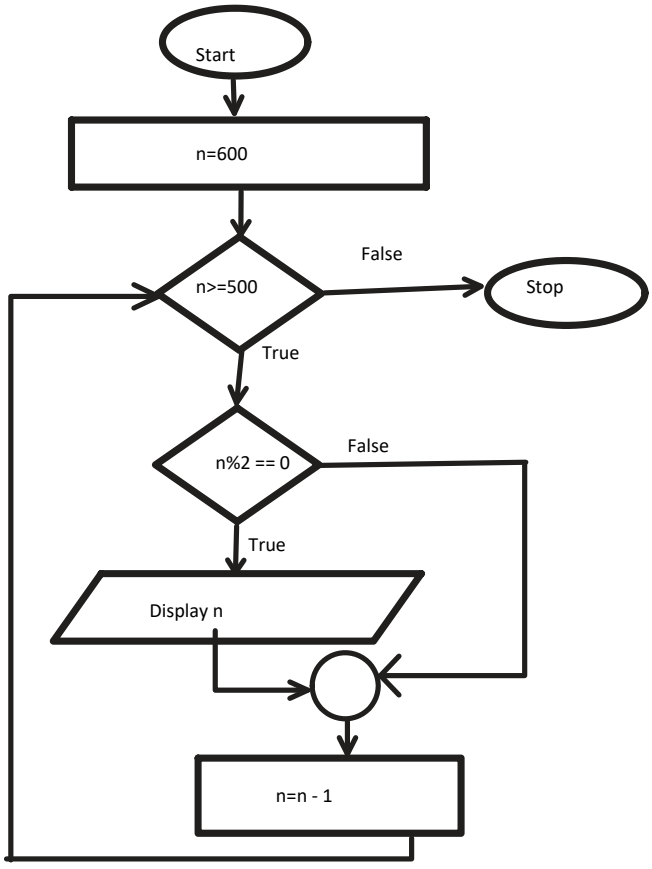
Begin
For n=10 to 1 step -1
Display " Counting Down", n
n=n-1
End for
Display "All Done!"
End

n=10
While n>0 Do
Display " Counting Down", n
n=n-1
End do
Display "All Done!"

```
/*Program : Counting Down 10
  Counting Down 9
  .
  .
  Counting Down 1
  All Done !*/

#include <stdio.h>

int main(void){

  //local data
  int n;

  for(n = 10; n > 0; n -= 1){

    printf("Counting Down %i\n",n);
  }
  printf("All Done !");



  return 0;
}
```

Exercise 18

Thursday, May 9, 2024 11:04 PM



Program : a program to display even numbers from 600 to 500.

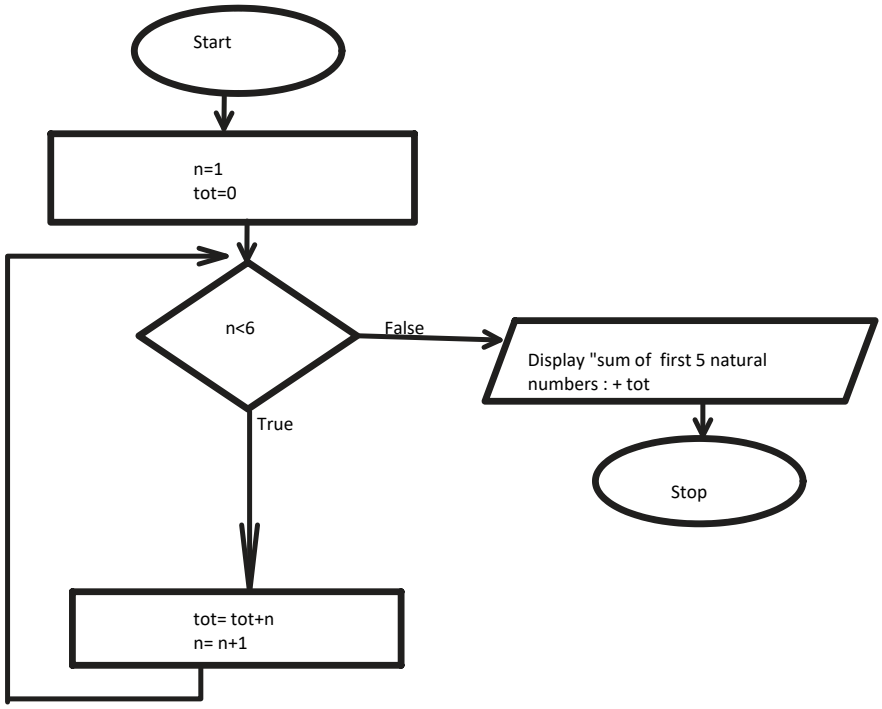
Local data : n : integer

Begin
    n=600
    For n=600 to 500 step -1
        If (n%2==0) Then
            Display n
        End if
        n=n-1
    End for
End

```
// Program :  Display even numbers from 600 to 500

#include <stdio.h>

int main(void){
  //local data
  int n;
  for(n = 600; n >= 500; n--){
    if(n % 2 == 0){
    printf("%i\n",n);
    }
  }


  return 0;
}
```

Exercise 19

Thursday, May 9, 2024 11:17 PM



Program : calculate and display the first 5 natural numbers.

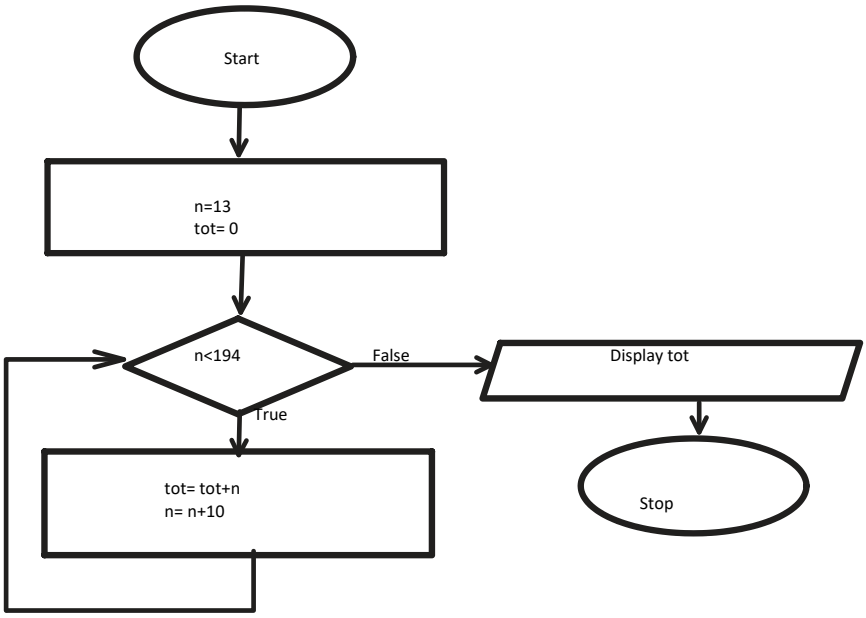
Local data : n : integer
tot : integer

Begin
tot=0
For n=1 to 5 step +1
tot= tot+n
n= n+1
End for
Display tot
End

```
//Program :  calculate and display the first 5 natural numbers.

#include <stdio.h>

int main(void){

   //local data
   int n, tot = 0;

   for(n = 1; n < 6; n++){

        tot = n + tot; //1 3 6 10 15
   }
     printf("%i",tot);

   return 0;
}
```

Exercise 20

Friday, May 10, 2024 7:55 PM

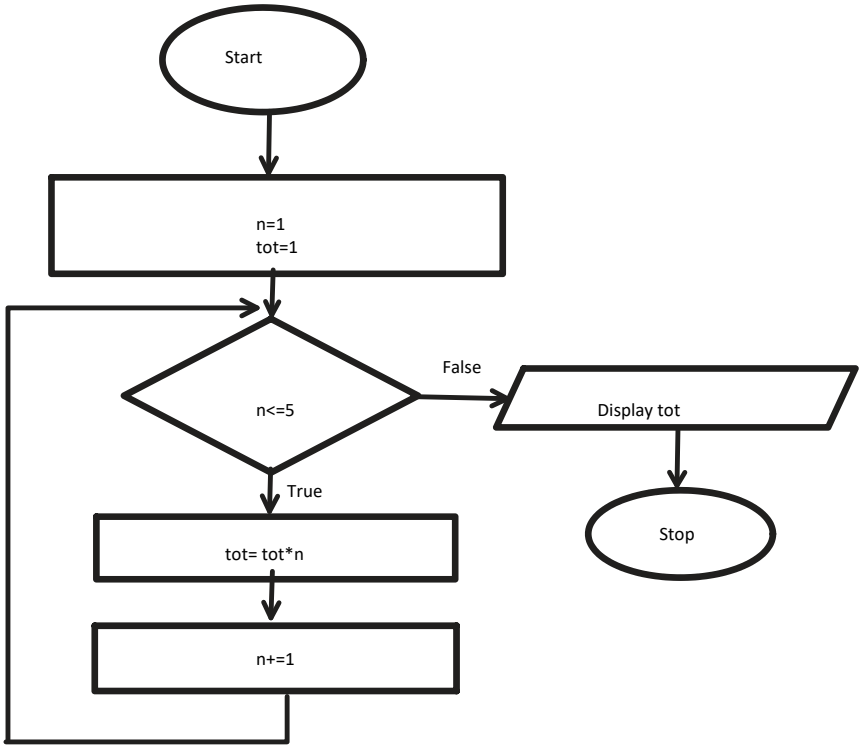



```
Program : to find the sum of 13+23+33+ …
          +up to 193

Local data : n,tot : integer

Begin
      n=13
      tot=0
      For n=13 to 193 step +10
            tot= tot+n
            n= n+10
      End for
      Display tot
End
```

```
// Program : find the sum of 13+23+33+ … +up to 193

#include <stdio.h>

int main(void){

  //local data
  int n, tot = 0;

  for(n = 13; n < 194; n+=10){

    tot = n + tot;
    printf("%i\n",n);
  }
  printf("Sum : %i",tot);

  return 0;
}
```

Exercise 21

Friday, May 10, 2024 8:29 PM

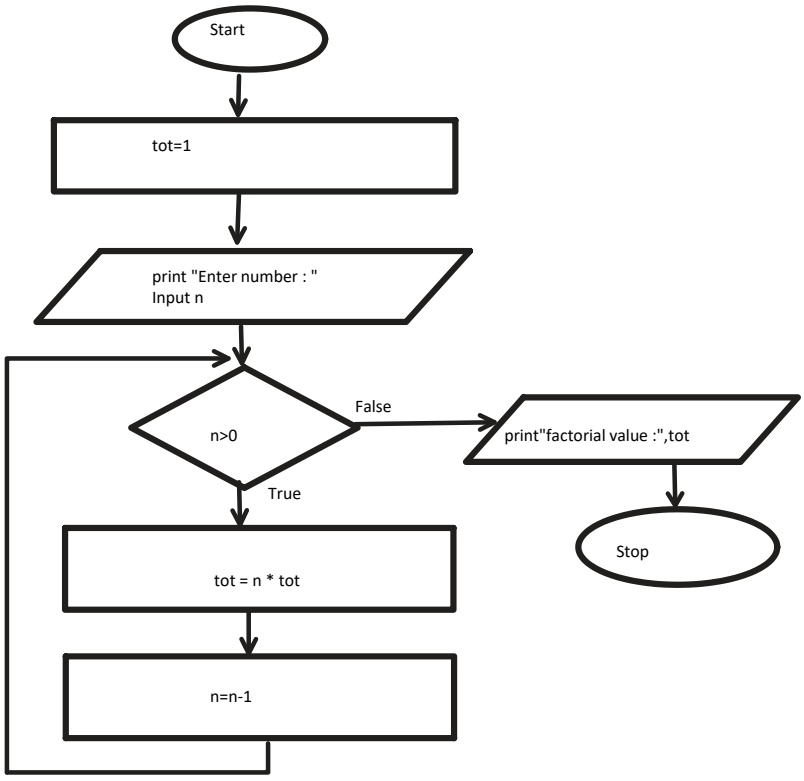



```
Program : calculate and display the factorial value of 5
Local data : n, tot : integer

Begin
        n=1
        tot=1
        For n=1 to 5 step +1
                tot=tot*n
                n+=1
        End for
        Display tot
End
```

```
//Program : calculate and display the factorial value of 5

#include <stdio.h>

int main(void){

   //local data
   int n, tot = 1;


   for(n = 1; n <= 5; n++){
      printf("%i\n",n);
      tot = tot * n;
   }
   printf("Total : %i",tot);



   return 0;
}
```

Exercise 22

Friday, May 10, 2024 10:18 PM

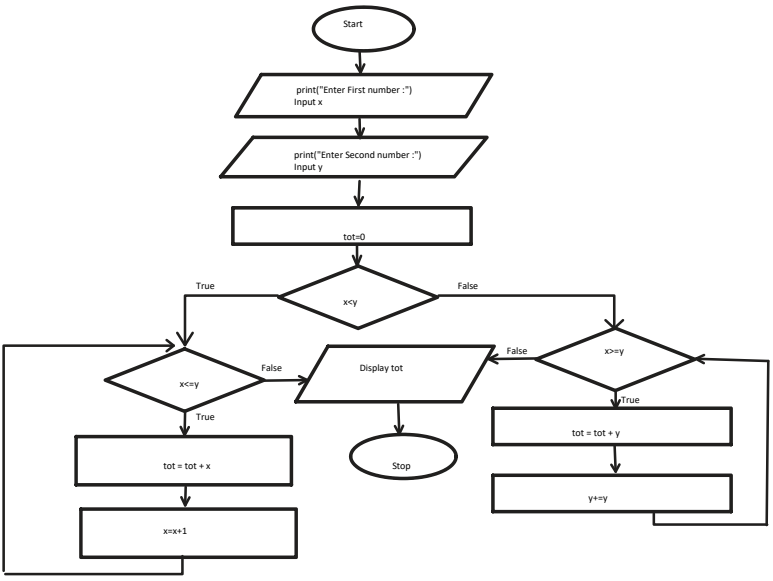



```
Program : input a number and thereafter calculate and display the
factorial value
Local data : n,tot : integer

Begin
        tot=1
        print "Enter number : "
        Input n
        For n to 1 step -1
                tot = n * tot
               n=n-1
        End for
        print"factorial value :",tot
End
```

```
// Program : input a number and thereafter calculate and display the
factorial value

#include <stdio.h>

int main(void){
   //local data
   int n, tot=1;

   printf("Enter number : ");
   scanf("%i",&n);

   for(n; n>0; n--){

      tot = n * tot;
   }
   printf("factorial value : %i",tot);



   return 0;
}
```

Exercise 23

Friday, May 10, 2024 10:52 PM




```
Program : calculate the total of numbers between two input numbers
Local data : x,y,tot : integer

Begin
        print("Enter First number :")
      Input x
      print("Enter Second number :")
      Input y
      tot=0
      If (x<y) then
            For x to y step +1
                  tot = tot + x
                  x=x+1
            End for
      Else
            For y to x step +1
                  tot = tot+ y
                  x=x+1
            End for
      End if
      Display tot
End
```

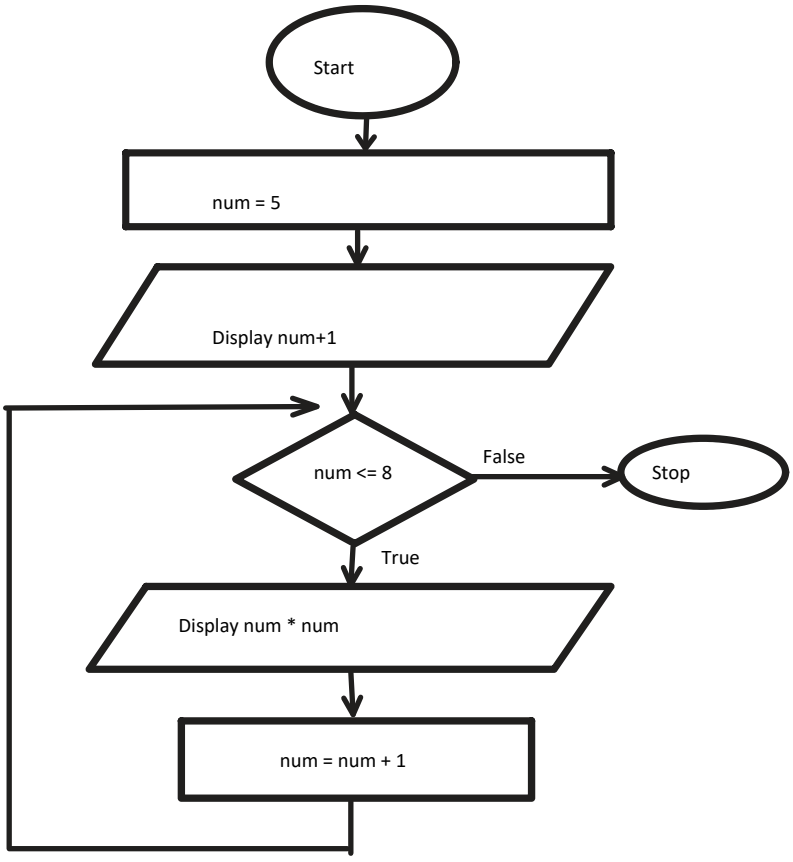
```
// Program : calculate the total of numbers between two input numbers

#include <stdio.h>

int main(void)
{

   //local data
   int x,y,tot;

   printf("Enter First number :");
   scanf("%i",&x);
   printf("Enter Second number :");
   scanf("%i",&y);
   if(x<y){
      for(x=x; x<=y; x++)
      {
         tot = tot + x;
      }
   }else{
   for(y=y; x>=y; y++)
      {
         tot = tot + y;
      }

   }
   printf("total of numbers between two inputed numbers : %i\n",tot);
   return 0;
}
```

Special Excersice

Tuesday, May 14, 2024 9:05 AM

Exercise 24

Tuesday, May 14, 2024 10:29 AM

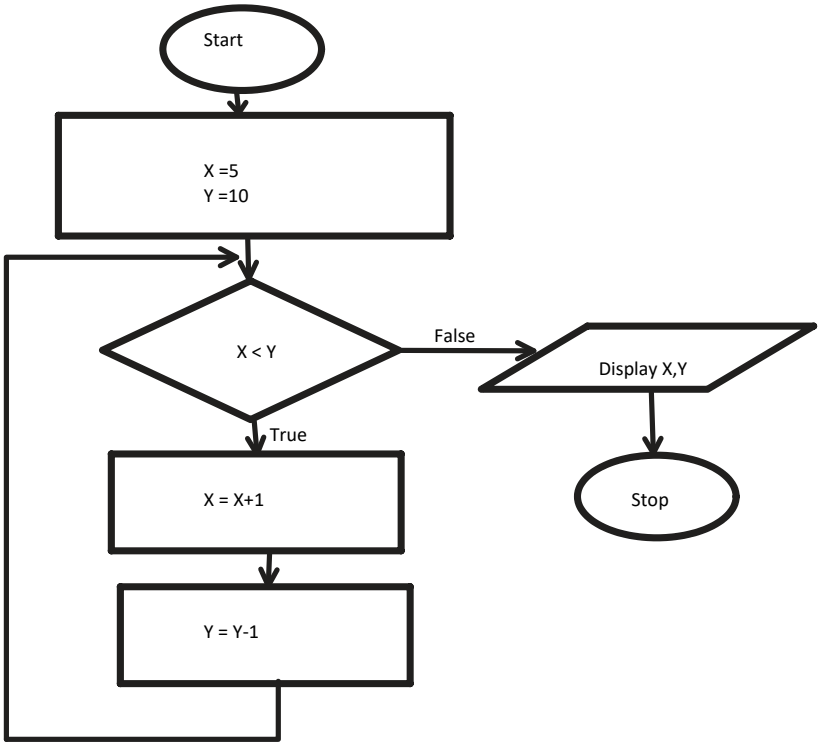



```
Program :- Output is ..????
Local data :  num : integer

Begin
        num = 5
        Display num+1
        While (num < = 8) Do
                Display num*num
                num= num+ 1
        End While
End
```

```
//program : Output is ..????
#include <stdio.h>

int main() {
   int num = 5;
   printf("%d\n", num + 1);
   while (num <= 8) {
      printf("%d\n", num * num);
      num = num + 1;
   }
   return 0;
}
```

Exercise 25

Tuesday, May 14, 2024 11:42 AM



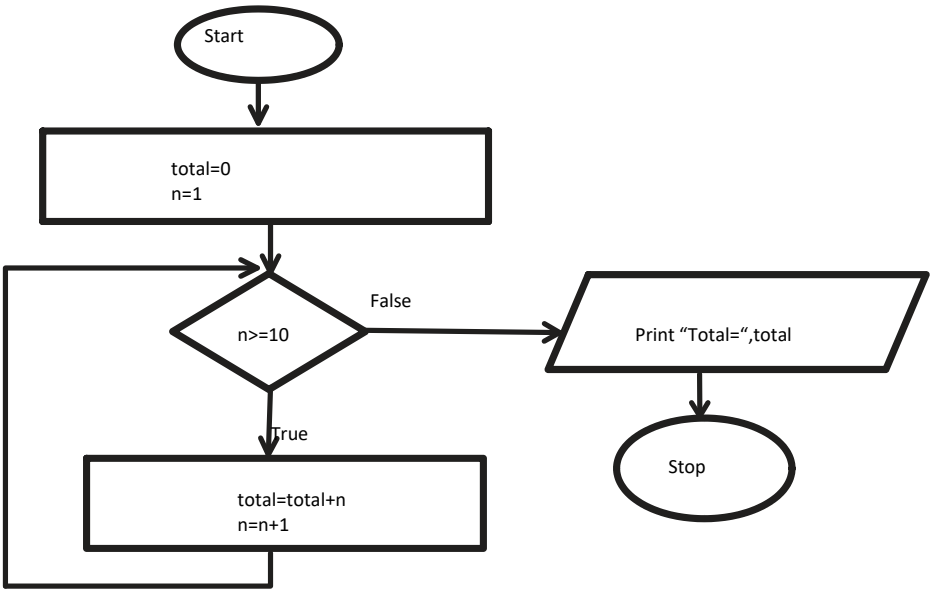
Program : Output is……..
Local data : X,Y : integer

Begin
    X=5
    Y=10
    While X<Y Do
        X=X+1
        Y=Y-1
    End do
    Display X,Y
End

```
// Program : Output is ……..

#include <stdio.h>

int main() {
   //local data
   int x = 5;
   int y = 10;

   while (x < y) {
      x = x + 1;
      y = y - 1;
   }
   printf("%d %d\n", x, y);
   return 0;
}
```

Exercise 26

Tuesday, May 14, 2024 1:21 PM

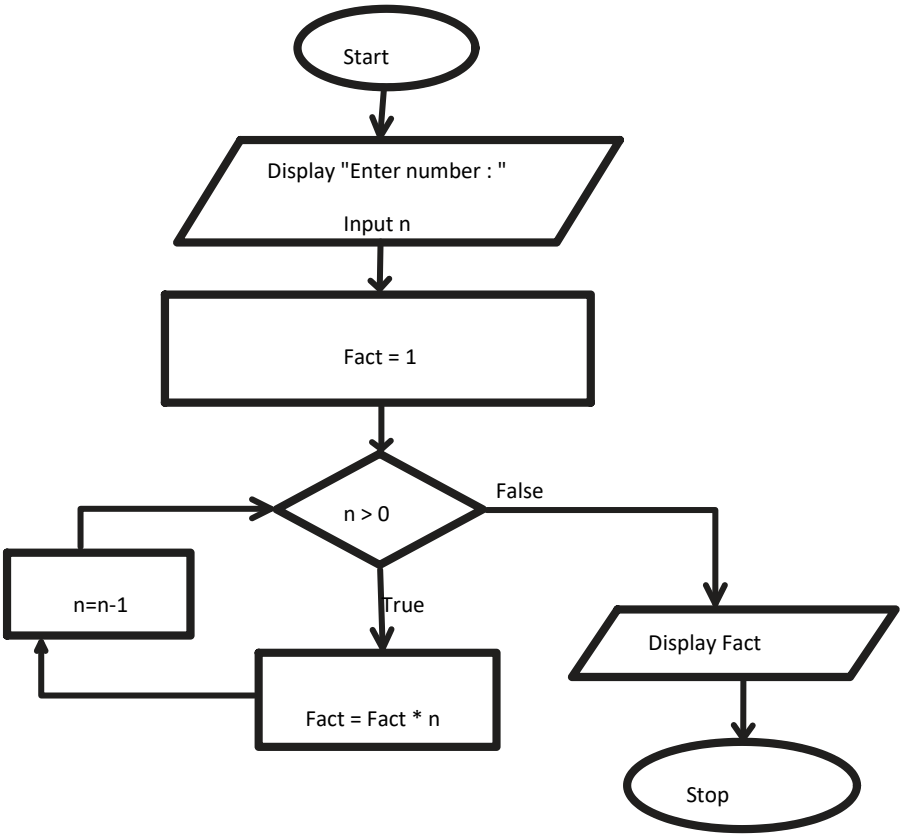



```
Program : Output is…….
Local data: total,n : integer

Begin
        n=1
        While(n>=10) DO
                total=total+n
                n=n+1
        End While
        Print “Total=“,total
End
```

```
//Program : Output is ....

#include <stdio.h>

int main(void){

   //local data
   int total;
   int n = 1;

   while(n>=10){
      total = total+n;
      n = n+1;
   }
   printf("Total = %i",total);

   return 0;
}
```

Exercise 27

Tuesday, May 14, 2024 1:30 PM

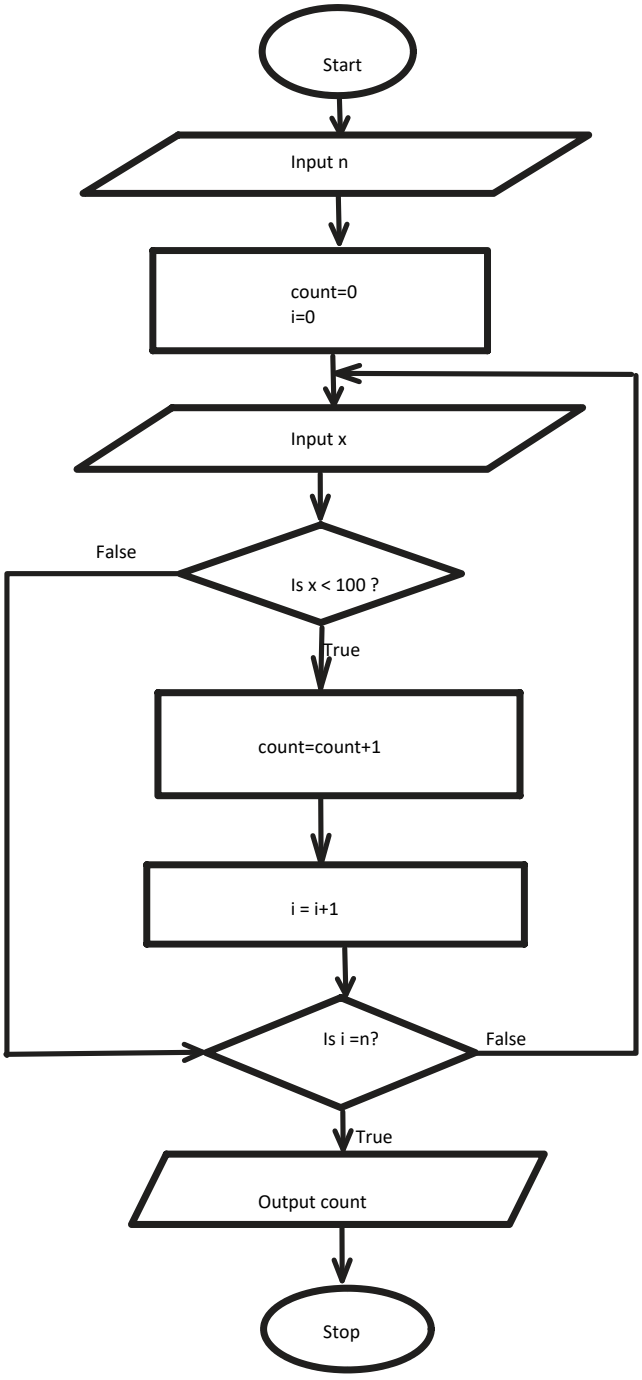



```
Program : find factorial value
Local data : n,Fact : integer

Begin
        Input n
        Fact = 1
        While (n > 0) do
                Fact = Fact * n
               n=n-1
        End do
        Display Fact
End
```

```
//find factorial value

#include <stdio.h>

int main(void){

   //local data
   int n,fact;

   printf("Enter number : ");
   scanf("%i",&n);

   fact =1;

   while(n>0){
      fact *=n;
      n--;
   }
   printf("Factorial value : %i",fact);

   return 0;
}
```

Exercise 28

Tuesday, May 14, 2024 3:27 PM

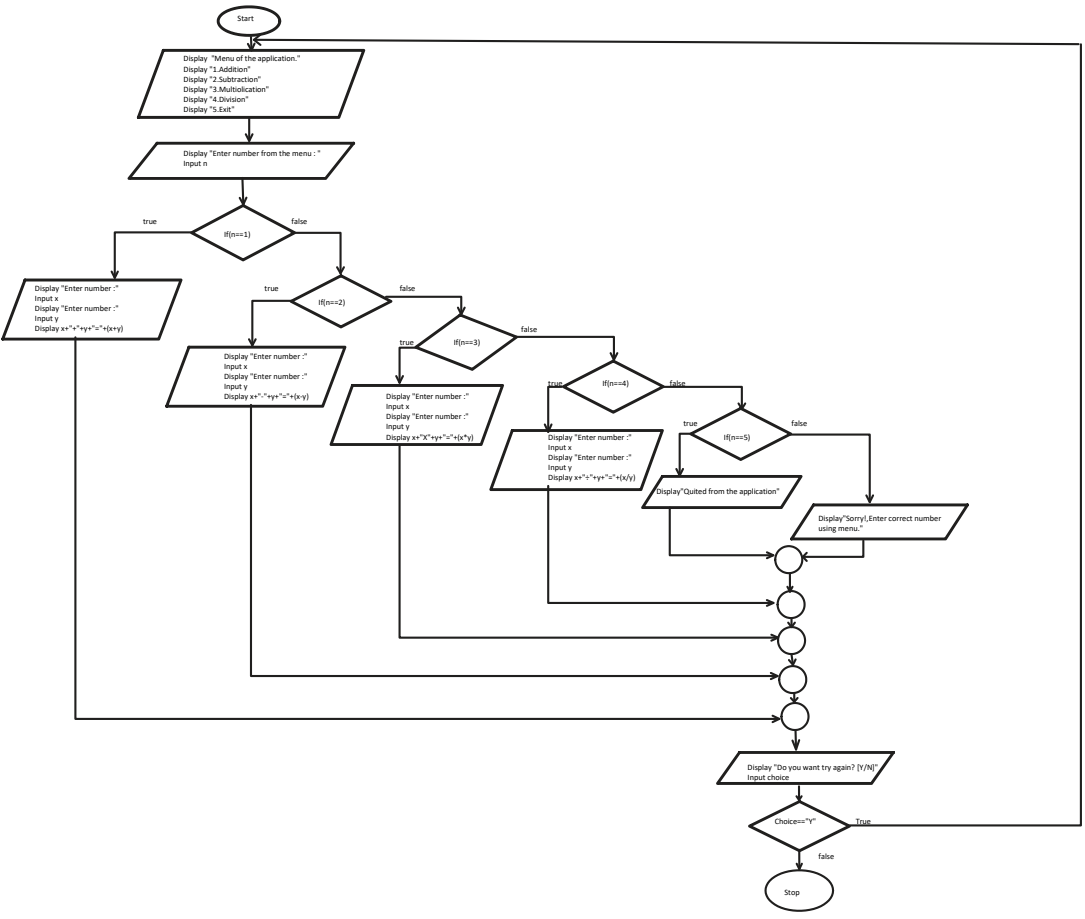



```
Progarm :check count of integers that are less than 100
Local data : count,n,i,x : integer

Begin
        Print "Enter the number of integers you want to check: "
        Input n
        count=0
        For i=0 to n step +1
                Print "Enter  integers: "
                Input x
                If x<100 then
                        count = count + 1
                End if
        End for
        Print "Number of integers less than 100: "+ count
End
```

```
//Program: Check count of integers that are less than 100

#include <stdio.h>

int main(void){

//Local data:
   int count, n, i, x;

   printf("Enter the number of integers you want to check: ");
   scanf("%i",&n);

   for(i=0; i<=n; i++){
      printf("Enter number : ");
      scanf("%i",&x);

      if(x<100){
         count++;
      }
   }
   printf("%i",count);
   return 0;
}
```

Exercise 29

Tuesday, May 14, 2024 3:49 PM




```
Program : Calculator
Local data : n,x,y : integer

Begin
    while
    Display  "Menu of the application."
    Display "1.Addition"
    Display "2.Subtraction"
    Display "3.Multiolication"
    Display "4.Division"
    Display "5.Exit"
    Display "Enter number from the menu : "
    Input n
    If(n==1) then
        Display "Enter number :"
        Input x
        Display "Enter number :"
        Input y
        Display x+"+"+y+"="+(x+y)
    Else if(n==2) then
        Display "Enter number :"
        Input x
        Display "Enter number :"
        Input y
        Display x+"-"+y+"="+(x-y)
    Else if(n==3) then
        Display "Enter number :"
        Input x
        Display "Enter number :"
        Input y
        Display x+"X"+y+"="+(x*y)
    Else if(n==4) then
        Display "Enter number :"
        Input x
        Display "Enter number :"
        Input y
        Display x+"÷"+y+"="+(x/y)
    Else if(n==5) then
        Display"Quited from the application"
    Else
        Display"Sorry!,Enter correct number using menu."
    End if
End
```

```
//program : calculator

#include <stdio.h>

int main(void){

  //local data
  int n,x,y;

  printf("Menu of the Application.\n\n");
  printf("\t1.Addition\n");
  printf("\t2.Subtraction\n");
  printf("\t3.Multiplication\n");
  printf("\t4.Division\n");
  printf("\t5.Exit\n\n");

  //input number
  printf("Enter Number from the menu : ");
  scanf("%d",&n);

  //addition
  if(n==1){

    printf("\n***** Addition *****\n\n");
    printf("\tEnter number : ");
    scanf("%d",&x);
    printf("\tEnter number : ");
    scanf("%d",&y);
    printf("\n-----------------------------\n\n");
    printf("\t%d + %d = %.2f\n",x ,y ,(float)(x+y));
    printf("\n-----------------------------\n");
  }
  //substraction
  else if(n===2){

    printf("\n***** Subtraction *****\n\n");
    printf("\tEnter number : ");
    scanf("%d",&x);
    printf("\tEnter number : ");
    scanf("%d",&y);
    printf("\n-----------------------------\n\n");
    printf("\t%d - %d = %.2lf",x ,y ,(float)(x-y));
    printf("\n-----------------------------\n");

  }
  //multiplication
  else if(n===3){

    printf("\n***** Multiplication *****\n\n");
    printf("\tEnter number : ");
    scanf("%d",&x);
    printf("\tEnter number : ");
    scanf("%d",&y);
    printf("\n-----------------------------\n\n");
    printf("\t%d X %d = %.2lf",x ,y ,(float)(x*y));
    printf("\n-----------------------------\n");

  }
  //division
  else if(n===4){


    printf("\n******* Division *******\n");
    printf("\tEnter number : ");
    scanf("%d",&x);
    printf("\tEnter number : ");
    scanf("%d",&y);
    printf("\n-----------------------------\n\n");
    printf("\t%d ÷ %d = %.2f\n", x, y, (double)x / y);
    printf("\n-----------------------------\n");


  }
  //exit
  else if(n===5){
    printf("\n-----------------------------------------\n");

    printf("\tQuited from the application");

    printf("\n-----------------------------------------\n");

    return 0;
  }else{
    printf("\tSorry!,Enter correct number using menu.");
  }

  return 0;
}
```