Assignment : L3

If-Else

Ques : Take 2 integers input and print the greatest of them.

solution:-

```cpp
#include<iostream>
using namespace std;
int main (){
    cout<<"enter the 1st number:    ";
    int n;
    cin>>n;
    cout<<"enter the 2nd number:    ";
    int y;
    cin>>y;
    if (n>y)
    {
        cout<<n<<" is the greatest number";
    }
    else{
        cout<<y<<" is the greatest number";
    }

}
```

Ques : Given the radius of the circle predict whether numerically area of this circle is larger than the circumference or not.

solution:-

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<"enter the radius: ";
    int r;
    cin>>r;
    float  area=3.141*r*r;
    float  circumference= 2*3.141*r;
    if (area>circumference)
    {
        cout<<"area is greater then circumference.";
    }
    else
    if (area == circumference)
    {
        cout<<"circumferece and area are equal.";
    }

     else {
        cout<<"circumferece is greater than area.";
    }

}
```

Ques : Any year is input through the keyboard. Write a program to determine whether the year is a leap year or not. (Considering leap year occurs after every 4 years)

solution:-

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<"enter the year: ";
    int y;
    cin>>y;
    if (y%400==0)
    {
        cout<<"leap year.";
    }
    else
        if (y%100==0)
    {
        cout<<"not a leap year.";
    }
     else
        if (y%4==0)
    {
        cout<<"leap year.";
    }
    else{
        cout<<"not a leap year";
    }
}
```

Ques : Given the length and breadth of a rectangle, write a program to find whether numerically the area of the rectangle is greater than its perimeter.

solution:-

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<"<enter the length:  ";
    int l;
    cin>>l;
    cout<<"enter the  breadth:  ";
    int b;
    cin>>b;
    float  area=l*b;
    float  perimeter=2*(l+b);
    if (area>perimeter)
    {
        cout<<"area is the greater then perimeter";

    }
    else
    {
        cout<<"perimeter is the greater then area";
    }
}
```

Ques : Write a program to input sides of a triangle and check whether a triangle is equilateral, scalene or isosceles triangle.

solution:-

```cpp
#include<iostream>
using namespace std;
int main (){
    cout<<"enter the first side: ";
    int n;
    cin>>n;
    cout<<"enetr the second side: ";
    int m;
    cin>>m;
    cout<<"enter the third side: ";
    int y;
    cin>>y;
    if ( n==m && m==y )
    {
      cout<<"the triangle is equilateral triangle";
    }
    else if ( n==m || m==y || y==n )
    {
     cout<<"the triangle is isoscales triangle";
    }
    else{
      cout<<"the triangle is scalene triangle";
    }
```

Ques : If the marks of A, B and C are input through the keyboard, write a program to determine the student scoring least marks.

solution:-

```cpp
#include<iostream>
using namespace std;
int main (){
    cout<<"enter the first student mark:  ";
    int a;
    cin>>a;
     cout<<"enter the second student mark:  ";
    int b;
    cin>>b;
     cout<<"enter the third student mark:  ";
    int c;
    cin>>c;
    if (a<b && a<c)
    {
        cout<<"the first student is have least marks.";

    }
    else if (b<a && b<c)
    {
        cout<<"the second student is have least marks.";
    }
    else{
        cout<<"the third student is have least marks.";
    }
}
```

Ques : Given a point (x, y), write a program to find out if it lies on the x-axis, y-axis or at the origin, viz. (0, 0).

solution:-

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<"enter the x point: ";
    float x;
    cin>>x;
    cout<<"enter the y point: ";
    float y;
    cin>>y;
   if (x==0 && y==0)
   {
      cout<<"point is lie on origin" ;

   }
    else{
       if (x!=0 && y==0)
       {
          cout<<"the point is lie on x axis";
       }
    else{
       if (x==0 && y!=0)
       {
          cout<<"the point is lie on y axis";
       }
    else{
       if (x!=0 && y!=0)
       {
          cout<<"the point is lie on plane";
       }
    }
    }
    }
}
```

Ques : Given three points (x1, y1), (x2, y2) and (x3, y3), write a program to check if all the three points fall on one straight line.

solution:-

```cpp
#include<iostream >
using namespace std;
int main(){
    float x1,x2 ,x3 ,y1 ,y2, y3 , slope1, slope2 ;

    cout<<"enter the x1 and y1 coordinate"<<endl;
    cin>>x1>>y1;
    cout<<"enter the x2 and y2 coordinate"<<endl;
    cin>>x2>>y2;
    cout<<"enter the x3 and y3 coordinate"<<endl;
    cin>>x3>>y3;
    slope1 = (y2 -y1)/(x2-x1);
    slope2 = (y3-y2)/(x3-x2);
    if (slope1==slope2)
    {
        cout<<"the point is lie on the same line";

    }
    else
    {
        cout<< "the point is not lie on the same axis";
    }
}
```

Ques : Write a C++ program to input any character and check whether it is the alphabet, digit or special character.

solution:-

```cpp
#include<iostream>
using namespace std;
int main(){
    cout<<"enter the character: ";
    char ch;
    cin>>ch;
    if ((ch >= 'a' && ch <= 'z')  || (ch >= 'A' && ch <= 'Z'))
    {
        cout<<"the character is alphabet";

    }
    else
    if (ch >= '0' && ch <= '9')
    {
      cout<<"the character is digit";
    }
    else{
        cout<<"the character is symbol";}
}
```

Predict the output

```
int main() {
    int a = 500, b, c ;
    if ( a ≥ 400 )
        b = 300 ;
        c = 200 ;
        cout << "value of b and c are respectively "
    <<b<<" and " << c  ;
    return 0;
}
```

solution:-   value of b and c are respectively 300 and 200