

Experiment 3.1 : Conditional Statement

WAP to check if the triangle is valid or not. If the validity is established, do check if the triangle is isosceles, equilateral, right angle or scalene. Take sides of the triangle as input from a user.

```
#include <stdio.h>
int main () {
    int side1, side2, side3;
    printf ("Enter the first side ");
    scanf ("%d", &side1);
    printf ("Enter the second side ");
    scanf ("%d", &side2);
    printf ("Enter the third side ");
    scanf ("%d", &side3);
    if ((side1 + side2 > side3) && (side1 + side3 > side2) && (side2 + side3 > side1))
    {
        printf ("Triangle is valid \n");
        if ((side1 == side2) && (side2 == side3))
        {
            printf ("Triangle is equilateral");
        }
        else if ((side1 == side2) || (side1 == side3) || (side2 == side3))
        {
            printf ("Triangle is isosceles");
        }
        else if (((side1 * side1) + (side2 * side2)) == (side3 * side3)) || ((side1 * side1) + (side3 * side3)
            == (side2 * side2)) || ((side2 * side2) + (side3 * side3) == (side1 * side1)))
        {
            printf ("Triangle is right angle");
        }
    }
}
```

```
else if (side1 != side2 & & side2 != side3 & & side1 != side3)  
{
```

```
    printf ("Triangle is Scalene");
```

```
}
```

```
}
```

```
else
```

```
{
```

```
    printf ("Triangle is not valid");
```

```
}
```

```
return 0;
```

```
}
```

```
C exp3triangle.c > main()
1
2 #include <stdio.h>
3
4 int main() {
5     int side1,side2,side3;
6     printf("Enter the first side ");
7     scanf("%d",&side1);
8     printf("Enter the second side ");
9     scanf("%d",&side2);
10    printf("Enter the third side ");
11    scanf("%d",&side3);
12
13    if ((side1+side2>side3)&& (side1+side3>side2)&&(side2+side3>side1)){
14        printf("Triangle is valid \n");
15
16
17        if ((side1==side2)&&(side2==side3))
18        {
19            printf ("Triangle is equilateral");
20        }
21        else if ((side1==side2)|| (side1==side3)|| (side2==side3))
22        {
23            printf("Triangle is isoceles");
24        }
25        else if (((side1*side1)+(side2*side2)==(side3*side3))||((side1*side1)+(side3*side3)==(side2*side2))||((side2*side2)+(side3*side3)==(side1*side1)))
26        {
27            printf("Triangle is right angle");
28        }
29        else if(side1 != side2 && side2!=side3 && side1 != side3)
30        {
31            printf("Triangle is scalene");
32        }
33    }
34}
```

```
32     }
33 }
34 else
35 {
36     printf("Triangle is not valid");
37 }
38
39
40     return 0;
41 }
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE PORTS

```
PS C:\Users\abiga\OneDrive\Desktop\Absproj> cd "c:\Users\abiga\OneDrive\Desktop\Absproj\" ; if ($?) { gcc exp3triangle.c -o exp3triangle } ; if ($?)
{ .\exp3triangle }
Enter the first side 25
Enter the second side 19
Enter the third side 21
Triangle is valid
Triangle is scalene
PS C:\Users\abiga\OneDrive\Desktop\Absproj>
```

