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200801168@rajalakshmi.edu.in ▾

**NPTEL** (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **Problem Solving Through Programming In C (course)**



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Course  
outline

How does an  
NPTEL  
online  
course  
work? ()

Week 0 : ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

☐ Lecture 16: IF-ELSE

## Week 4 : Programming Assignment 2

**Due on 2023-08-24, 23:59 IST**

The length of three sides are taken as input. Write a C program to find whether a triangle can be formed or not. If not display "This Triangle is NOT possible." If the triangle can be formed then check whether the triangle formed is equilateral, isosceles, scalene or a right-angled triangle. (If it is a right-angled triangle then only print Right-angle triangle do not print it as Scalene Triangle).

Private Test cases used  
for evaluation

	Input	Expected Output	Actual Output	Status
Test Case 1	10 4 6	Triangle is not possible	Triangle is not possible	Passed
Test Case 2	7 6 8	Scalene Triangle	Scalene Triangle	Passed

The due date for submitting this assignment has passed.

2 out of 2 tests passed.

You scored 100.0/100.

**Assignment submitted on 2023-08-23, 22:43 IST**

Your last recorded submission was :

```

1 #include<stdio.h>
2 int main()
3 {
4     int a,b,c;
5     scanf("%d %d %d",&a, &b, &c); /*The length of three sides are entered fr
6
7 /* Complete the program. Copy and paste from the printf statements mentioned
8
9 printf("Triangle is not possible");
10 printf("Right-angle Triangle");
11 printf("Isosceles Triangle");
12 printf("Equilateral Triangle");
13 printf("Scalene Triangle");

```

Statement  
(Contd.) (unit?  
unit=44&lesso  
n=45)

- Lecture 17:  
Switch  
statement  
(unit?  
unit=44&lesso  
n=46)
- Lecture 18:  
Switch  
Statement  
(Contd.) and  
Introduction  
to Loops  
(unit?  
unit=44&lesso  
n=47)

- Lecture 19:  
Implementing  
Repetitions  
(Loops) (unit?  
unit=44&lesso  
n=48)

- Lecture 20:  
Implementati  
on of Loops  
with for  
Statement  
(Contd.) (unit?  
unit=44&lesso  
n=49)

- Quiz: Week 4 :  
Assignment 4  
(assessment?  
name=230)

- Week 4 :  
Programming  
Assignment 1  
(/noc23\_cs121  
/progassignm  
ent?  
name=231)

- **Week 4 :  
Programmin  
g Assignment  
2  
(/noc23\_cs12  
1/progassign  
ment?  
name=232)**

```

14
15 */
16 if(a<(b+c)&&b<(a+c)&&c<(a+b))
17 {
18     if(a==b&&a==c&&b==c)
19         printf("Equilateral Triangle");
20     else if(a==b||a==c||b==c)
21         printf("Isosceles Triangle");
22     else if((a*a)==(b*b)+(c*c)||((b*b)==(a*a)+(c*c)||((c*c)==(a*a)+(b*b)))
23         printf("Right-angle Triangle");
24     else if(a!=b&&a!=c&&b!=c)
25         printf("Scalene Triangle");
26 }
27 else
28     printf("Triangle is not possible");
29     return 0;
30 }

```

Sample solutions (Provided by instructor)

```

1 #include<stdio.h>
2 int main()
3 {
4     int a,b,c;
5     scanf("%d %d %d",&a, &b, &c); /*The length of three sides are entered fr
6
7 /* Complete the program. Copy and paste from the printf statements mentioned
8
9 printf("Triangle is not possible");
10 printf("Right-angle Triangle");
11 printf("Isosceles Triangle");
12 printf("Equilateral Triangle");
13 printf("Scalene Triangle");
14
15 */
16 if(a<(b+c)&&b<(a+c)&&c<(a+b))
17 {
18     if(a==b&&a==c&&b==c)
19         printf("Equilateral Triangle");
20     else if(a==b||a==c||b==c)
21         printf("Isosceles Triangle");
22     else
23         if((a*a)==(b*b)+(c*c)||((b*b)==(a*a)+(c*c)||((c*c)==(a*a)+(b*b)))
24             printf("Right-angle Triangle");
25     else if(a!=b&&a!=c&&b!=c)
26         printf("Scalene Triangle");
27 }
28 else
29     printf("Triangle is not possible");
30 }

```

☒ Week 4 :  
Programming  
Assignment 3  
(/noc23\_cs121  
/progassignment?  
name=233)

☒ Week 4 :  
Programming  
Assignment 4  
(/noc23\_cs121  
/progassignment?  
name=234)

☐ Feedback  
Form of Week  
4 (unit?  
unit=44&lesso  
n=235)

☐ Assignment 4  
Solution (unit?  
unit=44&lesso  
n=51)

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**Week 5 ()**

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**Week 6 ()**

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**Problem  
Solving  
Session -  
July 2023 ()**