SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF COMPUTING SCIENCE

SRM Institute of Science and Technology
School of Computing

DEPARTMENT OF NETWORKING AND COMMUNICATION

LLJ -2 - REFUTE QUESTIONS
C PROGRAMMING

NAME : PADMANATHAN C

REG NO : RA2411030010021

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Refute Questions

1st Question

Problem statement :

Write a program to find the factorial of the given number.

Factorial of a number is given by the product of the integers from 1 to (n-1)

Factorial(n) = n*(n-1)*(n-2)* .....*3*2*1.

Solution code :

```
#include <stdio.h>
int main()
{
   int n=0, j, factorial = 1;
   printf("Enter a number: ");
   scanf("%d", &n);
   for (int i=1; i<=n; i++)
   {
       factorial = factorial*i;
   }
   printf("%d \n", factorial);
}
```

Execution :

Correct test case: Input = 6, Output = 720

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Refute test case: Input = -1, Output = 1 (Unexpected)

Explanation of Failure :

The code doesn't check for the numbers less than 0, which results in the incorrect output for negative numbers.

2nd Question

Problem statement :

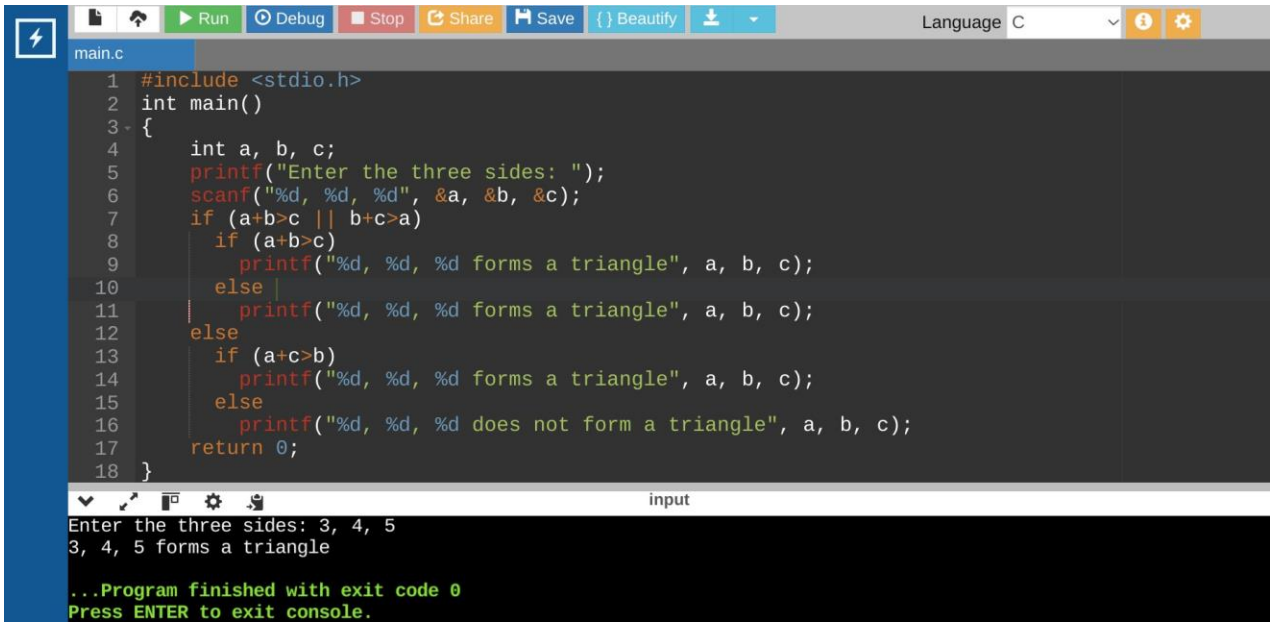
Write a program to check whether the given sides can form a triangle.
This is done by checking if the sum of two sides of a triangle is greater than the third side. If a, b, c are the sides of a triangle, and if the conditions a+b>c, b+c>a and a+c>b are fulfilled, then a, b, c forms a triangle.

Solution code :

```
#include <stdio.h>
int main()
{
    int a, b, c;
    printf("Enter the three sides: ");
    scanf("%d, %d, %d", &a, &b, &c);
```

```
    if (a+b>c || b+c>a)
      if (a+b>c)
        printf("%d, %d, %d forms a triangle", a, b, c);
      else
        printf("%d, %d, %d forms a triangle", a, b, c);
    else
      if (a+c>b)
        printf("%d, %d, %d forms a triangle", a, b, c);
      else
        printf("%d, %d, %d does not form a triangle", a, b, c);
    return 0;
}
```

Execution :



Correct test case: Input = 3, 4, 5, Output = forms a triangle

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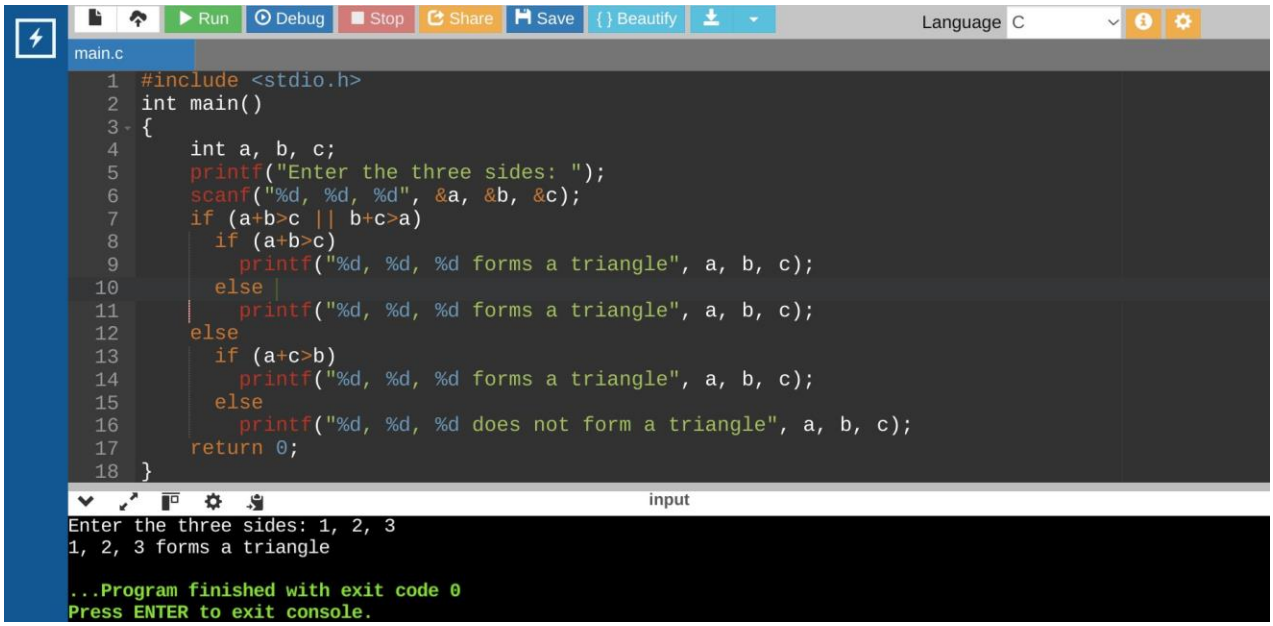

Refute test case: Input = 1, 2, 3, Output = forms a triangle (Unexpected)

Explanation of Failure :

The code gives incorrect results because it checks whether two sides are greater than the third, in only one of the combinations of a, b and c, rather than checking in all the three combinations.