

**LEBANESE AMERICAN UNIVERSITY**  
**School of Arts and Science**  
**Department of Computer Science and Mathematics**

**CSC 243: Intr. Object Oriented Program.**

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**Lab Quiz**

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**Important Note:** All inputs on the judging system are different than those in the paper.

**Problem 1**

Write a program that reads the radius of a circle as a double and prints the circle's area, diameter, and circumference. Use a final variable  $PI=3.14159$ .

**Sample Input**

10.5

**Sample Output**

Area is 346.3602975  
Diameter is 21.0  
Circumference is 65.97339

**Problem 2**

Write a program that reads an integer within the range of 1 through 5. The program should display the Roman numeral version of that number. If the number is outside the range of 1-5, the program should display "Invalid number".

**Sample Input**

11  
2

**Sample Output**

Invalid number  
II

**Problem 3**

Write a program that reads an integer and prints "**Prime**" if the number is prime otherwise it prints "**Not Prime**".

**Sample Input**

37  
9

**Sample Output**

Prime  
Not Prime

**Problem 4**

Write a program that reads an integer and prints its divisors, separated by the word " and ".

**Sample Input**

24  
14  
1

**Sample Output**

1 and 2 and 3 and 4 and 6 and 8 and 12 and 24  
1 and 2 and 7 and 14  
1

**Problem 5**

Write a program that reads a string and prints it in reverse.

**Sample Input**

Loki  
Thor  
Maram

**Sample Output**

ikoL  
rohT  
maram

**Problem 6**

Write a program that reads a string and a character, and prints the number of occurrences of this character.

**Sample Input**

xhello e  
TestTest t

**Sample Output**

1  
2

**Problem 7**

Write a program that reads an integer  $N$  and prints a right equilateral triangle with side  $N$  and filled with "\*" symbol as in the below sample.

**Sample Input**

3

**Sample Output**\*  
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\*\*\***Problem 8**

Write a program that reads an integer  $n$  and displays the  $n^{\text{th}}$  number in the Fibonacci sequence. The Fibonacci sequence is defined by:  $F(1) = F(2) = 1$  and  $F(n) = F(n-1) + F(n-2)$ . The fibonacci sequence is: 1 1 2 3 5 8 13 21 34 55 ...

**Sample Input**3  
1  
5**Sample Output**2  
1  
5