Time : 2:30 hrs   **Marks : 40**

Question 1:

You have been given a String S consisting of uppercase and lowercase English alphabets. You need to change the case of each alphabet in this String. That is, all the uppercase letters should be converted to lowercase and all the lowercase letters should be converted to uppercase. You need to then print the resultant String to output.

[10 Marks]

Input Format

The first and only line of input contains the String S

Output Format

Print the resultant String on a single line.

Constraints

1≤|S|≤100 where S denotes the length of string S.

Test case 1:

Input : abcdE

Output: ABCDe

Test case 2:

Input : I love my India

Output: i LOVE MY iNDIA

Test case 3:

Input : cdac@Mumbai

Output: CDAC@mUMBAI

Question 2:

 Write a Java Program for following Exception Handlers thrown by the code with given messages:

Division by zero: Print "Invalid division".
String parsed to a numeric variable : Print "Format mismatch".
Accessing an invalid index in string : Print "Index is invalid".
Accessing an invalid index in array : Print "Array index is invalid".

MyException : This is a user defined Exception which you need to create. It takes a parameter . When an exception of this class is encountered, the handler should print "MyException[param]", here is the parameter passed to the exception class.

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Example: For an exception of MyException class if the parameter value is 5, the message will look like MyException[5].

Input Format:
The code handles all the input itself.

Output Format:
If any exception is encountered in the code, print the respective handler code.
The last line of output should be "Exception Handling Completed".

Test case 1:
Input:
10
10
9
8
7
6
5
4
3
2
1
exceptionhandlingtime

Output:
a
MyException[117]
Exception Handling Completed

Test case 2:
9
1
2
3
4
5
6
7
8
9
string

Output:
Format mismatch
Exception Handling Completed

Test case 3:
10
10
9
8
7
6
5
4
3
2
1

string

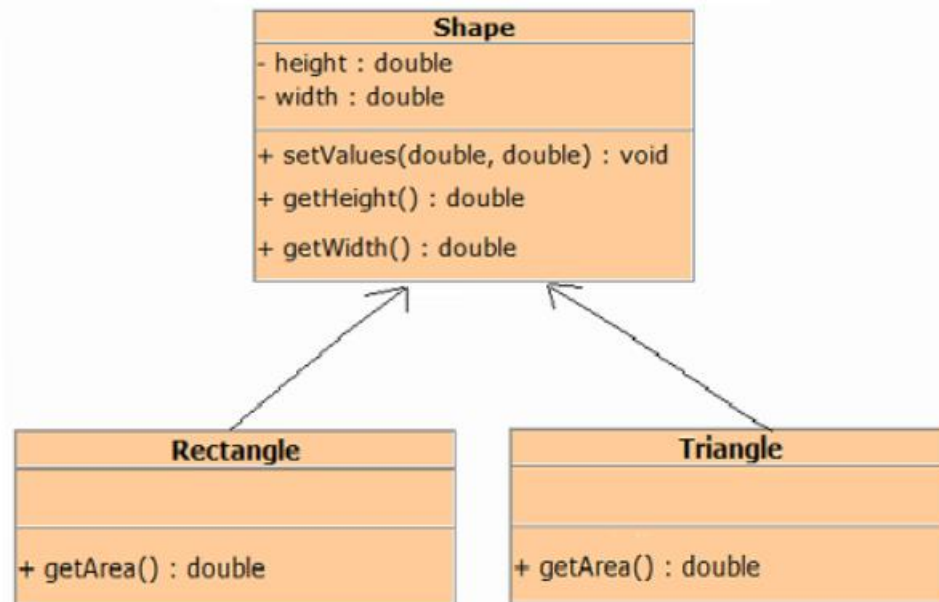**Output:**
Index is invalid
Exception Handling Completed

[15 Marks]

Question 3:
Q3: Write a Java Program to implement the given inheritance with Shape is super class for Rectangle and Triangle class with getArea() to calculate the area of rectangle and triangle.

[15 Marks]