**Assignment No. 4**

**GRN: 12010664**

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**Problem Statement**

Write a Java program for following exception, develop a suitable scenario in which the following exceptions occur:

* 1. divide by zero
  2. Array index out of bounds exception
  3. Null pointer Exception

**Sample Input and Output**

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| **Sample Input/Parameter** | **Expected Output** |
| Try to divide a number by zero | You shouldn’t divide a number by zero. |
| Try to access the array index which does not exist. | OOPs!!!Array Index 7 out of bounds for length 6. |
| Try to find the length of String in method (pass parameter string as null) | Null Pointer Exception arises!! |

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| --- |
| import java.util.Scanner;  public class ExceptionHandling {  public static void main(String[] args) {  Scanner input = new Scanner(System.*in*);  int a;  do {  System.*out*.println("Enter your choice");  System.*out*.println("1. Divide by Zero");  System.*out*.println("2. Array Index Out Of Bound");  System.*out*.println("3. Null Pointer Exception");  System.*out*.println("4. Exit");  a=input.nextInt();  switch (a){  case 1:  try{  System.*out*.print("Enter a number: ");  int num1 = input.nextInt();  System.*out*.print("Enter a number: ");  int num2 = input.nextInt();  System.*out*.println(num1/num2);  }catch (ArithmeticException e) {  System.*out*.println("You shouldn’t divide a number by zero"+"\n"+e);  }  break;  case 2:  try{  System.*out*.print("Enter length of array: ");  int n = input.nextInt();  int[] arr = new int[5];  for (int i=0;i<n;i++){  arr[i]= input.nextInt();  }  }catch (ArrayIndexOutOfBoundsException e){  System.*out*.println("Array Index Out of bound"+"\n"+e);  }  break;  case 3:  try{  String str = null;  System.*out*.println(str.length());  }catch (NullPointerException e){  System.*out*.println("Null Pointer Exception arises!!"+"\n"+e);  }  break;  default:  System.*out*.println("Invalid Choice");  break;  }  }while (a!=4);  } }  **Expected Output:** |