

## Exercise – Exceptions

1. Given the following code, what will happen if you try to compile/run this program?

```
import java.io.*;
class Example1
{
    public static void main(String args[])
    {
        FileInputStream fis = null;
        /*This constructor FileInputStream(File filename)
        * throws FileNotFoundException which is a checked
        * exception*/
        fis = new FileInputStream("B:/myfile.txt");
        int k;

        /*Method read() of FileInputStream class also throws
        * a checked exception: IOException*/
        while(( k = fis.read() ) != -1)
        {
            System.out.print((char)k);
        }

        /*The method close() closes the file input stream
        * It throws IOException*/
        fis.close();
    }
}
```

2. Given the following code, what will happen if you try to compile/run this program?

```
import java.io.*;
class Example2
{
    public static void main(String args[]) throws IOException
    {
        FileInputStream fis = null;
        fis = new FileInputStream("B:/myfile.txt");
        int k;

        while(( k = fis.read() ) != -1)
        {
            System.out.print((char)k);
        }
        fis.close();
    }
}
```

3. Given the following code, what will happen if the file stream won't close? What will happen if the file isn't in the **B:** directory?

```
import java.io.*;
class Example3
{
    public static void main(String args[])
    {
        FileInputStream fis = null;
        try
        {
            fis = new FileInputStream("B:/myfile.txt");
            int k;
            while(( k = fis.read() ) != -1)
            {
                System.out.print((char)k);
            }
            fis.close();
        }
        catch(IOException ioe)
        {
            System.out.println("I/O error occurred: "+ ioe);
        }
        catch(FileNotFoundException fnfe)
        {
            System.out.println("The specified file is not " +
                               "present at the given path");
        }
    }
}
```

4. Given the following code, what will happen if you try to compile/run this program?

```
class Example4
{
    public static void main(String args[])
    {
        int num1 = 10;
        int num2 = 0;

        /*Since I'm dividing an integer with 0
        * it should throw ArithmeticException*/
        int res=num1/num2;
        System.out.println(res);
    }
}
```

5. Given the following code, what will happen if you try to compile/run this program?

```
class Example5
{
    public static void main(String args[])
    {
        try
        {
            int arr[] ={1,2,3,4,5};
            System.out.println(arr[7]);
        }
        catch(ArrayIndexOutOfBoundsException e)
        {
            System.out.println("The specified index does not exist " +
                               "in array. Please correct the error.");
        }
    }
}
```

6. Given the following code, what will happen if you try to compile/run this program?

```
public class Example6
{
    public static void main(String args[])
    {
        try
        {
            Example6.myTest(null);
            Example6.myTest("Not null");
        }
        catch(AppException ae)
        {
            System.out.println("Inside catch block: "+
                               ae.getMessage());
        }
    }

    static void myTest(String str) throws AppException
    {
        if(str == null)
        {
            throw new AppException("String val is null");
        }
    }
}

class AppException extends Exception
{
    public AppException()
    {
        super();
    }

    public AppException(String message)
    {
        super(message);
    }
}
```