EXCEPTION C# / JAVA

EX-11.1.

C#

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Exception_11_1
{
   // Example 11-1. Throwing an exception
   class Test
   {
      static void Main(string[] args)
      {
         Console.WriteLine("Enter Main...");
         Test t = new Test();
         t.Func1();
         Console.WriteLine("Exit Main...");
      }
      public void Func1()
      {
         Console.WriteLine("Enter Func1...");
         Func2();
         Console.WriteLine("Exit Func1...");
      }
      public void Func2()
      {
         Console.WriteLine("Enter Func2...");
         throw new System.Exception();
         Console.WriteLine("Exit Func2...");
      }
   }
}
```

JAVA

```
package mypack;

public class ex1 {

	public static void main(String[] args) throws Exception {
		// TODO Auto-generated method stub
		System.out.println("Enter Main...");
		ex1 t = new ex1();
      t.Func1();
      System.out.println("Exit Main...");
   }
   public void Func1() throws Exception
```

```
    {
        System.out.println("Enter Func1...");
        Func2();
        System.out.println("Exit Func1...");
    }
    public void Func2() throws Exception
    {
        System.out.println("Enter Func2...");
        throw new Exception();
        //System.out.println("Exit Func2...");
    }

}
```

EX-11.2.

C#

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Exception_11_2
{
    // Example 11-2. Catching an exception
    class Test
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Enter Main...");
            Test t = new Test();
            t.Func1();
            Console.WriteLine("Exit Main...");
        }
        public void Func1()
        {
            Console.WriteLine("Enter Func1...");
            Func2();
            Console.WriteLine("Exit Func1...");
        }
        public void Func2()
        {
            Console.WriteLine("Enter Func2...");
            try
            {
                Console.WriteLine("Entering try block...");
                throw new System.Exception();
                Console.WriteLine("Exiting try block...");
            }
            catch
```

```
        {
            Console.WriteLine(
            "Exception caught and handled.");
        }
        Console.WriteLine("Exit Func2...");
    }
  }
}
```

JAVA

```
package mypack;

public class ex2 {

        public static void main(String[] args) {
                // TODO Auto-generated method stub
                System.out.println("Enter Main...");
                ex2 t = new ex2();
    t.Func1();
    System.out.println("Exit Main...");
  }
  public void Func1()
  {
    System.out.println("Enter Func1...");
    Func2();
    System.out.println("Exit Func1...");
  }
  public void Func2()
  {
    System.out.println("Enter Func2...");
    try {
      System.out.println("Entering try block...");
      throw new Exception();
      //System.out.println("Exiting try block...");
    }
    catch(Exception ex)
    {
      System.out.println(
      "Exception caught and handled.");
    }
    System.out.println("Exit Func2...");
  }

}
```

EX-11.3.

C#

```
using System;
```

```
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Exception_11_3
{
   // Example 11-3. Catch in a calling function
   class Test
   {
      static void Main(string[] args)
      {
         Console.WriteLine("Enter Main...");
         Test t = new Test();
         t.Func1();
         Console.WriteLine("Exit Main...");
      }
      public void Func1()
      {
         Console.WriteLine("Enter Func1...");
         try
         {
            Console.WriteLine("Entering try block...");
            Func2();
            Console.WriteLine("Exiting try block...");
         }
         catch
         {
            Console.WriteLine(
            "Exception caught and handled.");
         }
         Console.WriteLine("Exit Func1...");
      }
      public void Func2()
      {
         Console.WriteLine("Enter Func2...");
         throw new System.Exception();
         Console.WriteLine("Exit Func2...");
      }
   }
}
```

JAVA

```
package mypack;

public class ex3 {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		System.out.println("Enter Main...");
```

```
                ex3 t = new ex3 ();
        t.Func1();
        System.out.println("Exit Main...");
    }
    public void Func1()
    {
        System.out.println("Enter Func1...");
        try
        {
            System.out.println("Entering try block...");
            Func2();
            System.out.println("Exiting try block...");
        }
        catch(Exception ex)
        {
            System.out.println(
            "Exception caught and handled.");
        }
        System.out.println("Exit Func1...");
    }
    public void Func2() throws Exception
    {
        System.out.println("Enter Func2...");
        throw new Exception();
        //System.out.println("Exit Func2...");
    }

}
```

EX-11.5.

C#

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Exception_11_5
{
    // Example 11-5. Using a finally block
    class Test
    {
        static void Main(string[] args)
        {
            Test t = new Test();
            t.TestFunc();
        }
        // try to divide two numbers
        // handle possible exceptions
        public void TestFunc()
```

```
{
    try
    {
        double a;
        Console.WriteLine("Open file here");

        Console.Write("a= ");
        a=Double.Parse(Console.ReadLine());

        double b ;
        Console.Write("b= ");
        b = Double.Parse(Console.ReadLine());

        Console.WriteLine("{0} / {1} = {2}",
        a, b, DoDivide(a, b));
        Console.WriteLine(
        "This line may or may not print");
    }
    // most derived exception type first
    catch (System.DivideByZeroException e)
    {
        Console.WriteLine(
        "DivideByZeroException caught!");
        Console.WriteLine("{0}",e.Message);
    }
    catch (System.ArithmeticException e)
    {
        Console.WriteLine(
        "ArithmeticException caught!");
        Console.WriteLine("{0}", e.Message);
    }
    catch (FormatException e)
    {
        Console.WriteLine(
        "FormatException caught!");
        Console.WriteLine("{0}", e.Message);
    }
    catch
    {
        Console.WriteLine(
        "UnknowException caught!");
    }
    finally {

        Console.WriteLine("Close file here.");
    }
}
// do the division if legal
public double DoDivide(double a, double b)
{
    if (b == 0)
    {
```

```
            throw new System.DivideByZeroException("Attemp divided by zero!!!");
        }
        if (a == 0)
        {
            throw new System.ArithmeticException("divisor equal zero !!!");
        }
        return a / b;
        //throw new Exception();
    }
  }
}
```

JAVA

```
package mypack;

import java.util.InputMismatchException;
import java.util.Scanner;

public class ex1 {

        private static Scanner sc;
        public static void main(String[] args) {
                // TODO Auto-generated method stub
                ex1 t = new ex1();
    t.TestFunc();
  }
  // try to divide two numbers
  // handle possible exceptions
  public void TestFunc()
  {
        sc=new Scanner(System.in);
    try
    {
        double a;
        System.out.println("Open file here");

        System.out.print("a= ");
        a=sc.nextDouble();

        double b ;
        System.out.print("b= ");
        b =sc.nextDouble();

        System.out.println(a+""+b+"="+DoDivide(a, b));
        System.out.println("This line may or may not print");
    }
    // most derived exception type first
    catch (ArithmeticException e)
    {
        System.out.println(
```

```
            "DivideByZeroException caught!");
            System.out.println("Error: "+ e.getMessage());
        }
        catch (IllegalArgumentException e)
        {
            System.out.println(
            "ArithmeticException caught!");
            System.out.println("Error: "+ e.getMessage());
        }
        catch (InputMismatchException e)
        {
            System.out.println(
            "FormatException caught!");
            System.out.println("Error: "+ e.getMessage());
        }
        catch(Exception ex)
        {
            System.out.println("UnknowException caught!");
        }
        finally {

            System.out.println("Close file here.");
        }
    }
    // do the division if legal
    public double DoDivide(double a, double b)
    {
        if (b == 0)
        {
            throw new ArithmeticException("Attemp divided by zero!!!");
        }
        if (a == 0)
        {
            throw new IllegalArgumentException("divisor equal zero !!!");
        }
        return a / b;
        //throw new Exception();
    }
}
```