

Exception Handling



By

Dr M. Senthilkumar
Assistant Professor

Department of Computer Science
Government Arts and Science College, Avinashi - 641654

Types of Errors

- ✓ Compile – Time
 - ✓ Detects and Displays **Syntax Errors**
 - ✓ **.class** file will not be created
 - ✓ Mostly typographical errors
- ✓ Run – Time
 - ✓ **Logic errors**
 - ✓ **.class is created** but program is terminated

Compile – Time Errors

- ✓ Missing Semicolon
- ✓ Missing Brackets
- ✓ Missing double quotes
- ✓ Misspelling of identifiers and keywords

Compile – Time Errors

- ✓ Use of undeclared variables
- ✓ Incompatible types of Assignments/ Initialization
- ✓ Bad reference to objects
- ✓ Use of = in place of ==
- ✓ Directory/ Path setting problem (Command not Found)

Compile – Time Errors

```
class Error1
{
    public static void main(String args[ ])
    {
        System.out.println("Senthil")
    }
}
```

Compile – Time Errors

```
D:\jdk1.8.0_111\jdk1.8.0_111\bin>javac Error1.java
```

```
Error1.java:5: error: ';' expected
```

```
        System.out.println("Senthil") // Missing ;  
                                   ^
```

```
1 error
```

Run – Time Errors

- ✓ Dividing an Integer by Zero
- ✓ Accessing an element that is out of bounds of array
- ✓ Trying to store value in an array of incompatible class/type
- ✓ Trying to cast an instance of a class to one of its sub-classes

Run – Time Errors

- ✓ Passing a parameter that is not in a valid range/ value for the method
- ✓ Trying to illegally change the state of the Thread
- ✓ Attempting to choose negative size of array
- ✓ Using a null object reference as a legitimate object reference to access a method or a variable

Run – Time Errors

- ✓ Converting invalid string to number
- ✓ Accessing character that is out of bounds of a string

Run – Time Errors

```
class Error2
{
    public static void main(String args[ ])
    {
        int a = 10;
        int b = 5;
        int c = 5;
        int x = a / (b - c);
        System.out.println("x = " + x);
    }
}
```

Run – Time Errors

```
D:\jdk1.8.0_111\jdk1.8.0_111\bin>javac Error2.java
```

```
D:\jdk1.8.0_111\jdk1.8.0_111\bin>java Error2
```

```
Exception in thread "main" java.lang.ArithmeticException: / by zero  
    at Error2.main(Error2.java:8)
```

References

- ✓ Programming with Java – A Primer - E. Balagurusamy, 3rd Edition, TMH

Thank You