

Montgomery College, CMSC 203
Worksheet 2
Module 11

Objectives

- File I/O
- Exceptions

Concept Questions

- 1) A(n) _____ is an object that is generated in memory as the result of an error or an unexpected event.
A) exception handler
B) exception
C) default exception handler
D) error message

- 2) All of the exceptions that you will handle are instances of classes that extend this class.
A) `RuntimeException`
B) `IOException`
C) `Error`
D) `Exception`

- 3) All exceptions are instances of classes that extend this class.
A) `RuntimeException`
B) `Throwable`
C) `Error`
D) `Exception`

- 4) In a `try/catch` construct, after the `catch` statement is executed:
A) the program returns to the statement following the statement in which the exception occurred
B) the program terminates
C) the program resumes at the statement that immediately follows the `try/catch` construct
D) the program resumes at the first statement of the `try` statement

- 5) An exception's default error message can be retrieved using this method.
A) `getMessage()`
B) `getErrorMessage()`
C) `getDefaultMessage()`
D) `getDefaultErrorMessage()`

- 6) Why does the following code cause a compiler error?

```
try
{
    number = Integer.parseInt(str);
}
catch (IllegalArgumentException e)
```

```

{
    System.out.println("Bad number format.");
}
catch (NumberFormatException e)
{
    System.out.println(str + " is not a number.");
}

```

- A) Because you can have only one catch clause in a try statement
- B) Because `NumberFormatException` inherits from `IllegalArgumentException`. The code should handle `NumberFormatException` before `IllegalArgumentException`
- C) Because the `Integer.parseInt` method does not throw a `NumberFormatException`
- D) Because the `Integer.parseInt` method does not throw an `IllegalArgumentException`

7) If, within one try statement you want to have catch clauses of the following types, in which order should they appear in your program:

- (1) `Exception`
 - (2) `IllegalArgumentException`
 - (3) `RuntimeException`
 - (4) `Throwable`
- A) 1, 2, 3, 4
 - B) 2, 3, 1, 4
 - C) 4, 1, 3, 2
 - D) 3, 1, 2, 4

8) When an exception is thrown:

- A) it must always be handled by the method that throws it
- B) the program terminates even if the exception is handled
- C) it must be handled by the program or by the default exception handler
- D) it may be ignored

9) The numeric classes' "parse" methods all throw an exception of this type if the string being converted does not contain a convertible numeric value.

- A) `NumberFormatException`
- B) `ParseException`
- C) `ExceptionMessage`
- D) `FileNotFoundException`

10) To read a file you will need a _____.

11) To write to a file you will need a _____.

12) Write code which will write a string "Hello world" to a file called "Hello.txt"

—

13) Write code which creates a File object which is linked to a file called "Hello.txt"

18) Write a snippet of code which will read the data from file line by line and then output it in the console window

Programming Questions

- Write the following program:
 - Prompt the user to enter a series of 10 numbers and save those numbers to a file called "Numbers.txt". After that close the file.
 - Next, open the file "Numbers.txt". While reading it line by line, add the number from the next line to the current line number.
 - EX: My file has numbers like this:
1
2
3
I will have two additions: 1+2 and 2+3
 - Save the results of the addition to a new file called "NumbersAdded.txt"