

Review Questions

1. Which of the following statements are true? (Choose all that apply)
 - A. Runtime exceptions are the same thing as checked exceptions.
 - B. Runtime exceptions are the same thing as unchecked exceptions.
 - C. You can declare only checked exceptions.
 - D. You can declare only unchecked exceptions.
 - E. You can handle only `Exception` subclasses.
2. Which of the following pairs fill in the blanks to make this code compile? (Choose all that apply)

```
7: public void ohNo() _____ Exception {  
8:     _____ Exception();  
9: }
```

 - A. On line 7, fill in `throw`
 - B. On line 7, fill in `throws`
 - C. On line 8, fill in `throw`
 - D. On line 8, fill in `throw new`
 - E. On line 8, fill in `throws`
 - F. On line 8, fill in `throws new`
3. When are you required to use a `finally` block in a regular `try` statement (not a `try-with-resources`)?
 - A. Never.
 - B. When the program code doesn't terminate on its own.
 - C. When there are no catch blocks in a `try` statement.
 - D. When there is exactly one catch block in a `try` statement.
 - E. When there are two or more catch blocks in a `try` statement.
4. Which exception will the following throw?

```
Object obj = new Integer(3);  
String str = (String) obj;  
System.out.println(str);
```

 - A. `ArrayIndexOutOfBoundsException`
 - B. `ClassCastException`
 - C. `IllegalArgumentException`
 - D. `NumberFormatException`
 - E. None of the above.

5. Which of the following exceptions are thrown by the JVM? (Choose all that apply)
- A. `ArrayIndexOutOfBoundsException`
 - B. `ExceptionInInitializerError`
 - C. `java.io.IOException`
 - D. `NullPointerException`
 - E. `NumberFormatException`
6. What will happen if you add the statement `System.out.println(5 / 0);` to a working `main()` method?
- A. It will not compile.
 - B. It will not run.
 - C. It will run and throw an `ArithmeticException`.
 - D. It will run and throw an `IllegalArgumentException`.
 - E. None of the above.
7. What is printed besides the stack trace caused by the `NullPointerException` from line 16?
- ```
1: public class DoSomething {
2: public void go() {
3: System.out.print("A");
4: try {
5: stop();
6: } catch (ArithmeticException e) {
7: System.out.print("B");
8: } finally {
9: System.out.print("C");
10: }
11: System.out.print("D");
12: }
13: public void stop() {
14: System.out.print("E");
15: Object x = null;
16: x.toString();
17: System.out.print("F");
18: }
19: public static void main(String[] args) {
20: new DoSomething().go();
21: }
22: }
```
- A. AE
  - B. AEBCD

- C.** AEC
  - D.** AECD
  - E.** No output appears other than the stack trace.
8. What is the output of the following snippet, assuming a and b are both 0?
- ```
3:     try {
4:         return a / b;
5:     } catch (RuntimeException e) {
6:         return -1;
7:     } catch (ArithmeticException e) {
8:         return 0;
9:     } finally {
10:        System.out.print("done");
11:    }
```
- A.** -1
 - B.** 0
 - C.** done-1
 - D.** done0
 - E.** The code does not compile.
 - F.** An uncaught exception is thrown.
9. What is the output of the following program?
- ```
1: public class Laptop {
2: public void start() {
3: try {
4: System.out.print("Starting up ");
5: throw new Exception();
6: } catch (Exception e) {
7: System.out.print("Problem ");
8: System.exit(0);
9: } finally {
10: System.out.print("Shutting down ");
11: }
12: }
13: public static void main(String[] args) {
14: new Laptop().start();
15: } }
```
- A.** Starting up
  - B.** Starting up Problem
  - C.** Starting up Problem Shutting down

- D. Starting up Shutting down
- E. The code does not compile.
- F. An uncaught exception is thrown.

10. What is the output of the following program?

```
1: public class Dog {
2: public String name;
3: public void parseName() {
4: System.out.print("1");
5: try {
6: System.out.print("2");
7: int x = Integer.parseInt(name);
8: System.out.print("3");
9: } catch (NumberFormatException e) {
10: System.out.print("4");
11: }
12: }
13: public static void main(String[] args) {
14: Dog leroy = new Dog();
15: leroy.name = "Leroy";
16: leroy.parseName();
17: System.out.print("5");
18: } }
```

- A. 12
- B. 1234
- C. 1235
- D. 124
- E. 1245
- F. The code does not compile.
- G. An uncaught exception is thrown.

11. What is the output of the following program?

```
1: public class Cat {
2: public String name;
3: public void parseName() {
4: System.out.print("1");
5: try {
6: System.out.print("2");
7: int x = Integer.parseInt(name);
8: System.out.print("3");
```

```
9: } catch (NullPointerException e) {
10: System.out.print("4");
11: }
12: System.out.print("5");
13: }
14: public static void main(String[] args) {
15: Cat leo = new Cat();
16: leo.name = "Leo";
17: leo.parseName();
18: System.out.print("6");
19: }
20: }
```

- A. 12, followed by a stack trace for a `NumberFormatException`
- B. 124, followed by a stack trace for a `NumberFormatException`
- C. 12456
- D. 12456
- E. 1256, followed by a stack trace for a `NumberFormatException`
- F. The code does not compile.
- G. An uncaught exception is thrown.

12. What is printed by the following? (Choose all that apply)

```
1: public class Mouse {
2: public String name;
3: public void run() {
4: System.out.print("1");
5: try {
6: System.out.print("2");
7: name.toString();
8: System.out.print("3");
9: } catch (NullPointerException e) {
10: System.out.print("4");
11: throw e;
12: }
13: System.out.print("5");
14: }
15: public static void main(String[] args) {
16: Mouse jerry = new Mouse();
17: jerry.run();
18: System.out.print("6");
19: } }
```

- A. 1
  - B. 2
  - C. 3
  - D. 4
  - E. 5
  - F. 6
  - G. The stack trace for a `NullPointerException`
13. Which of the following statements are true? (Choose all that apply)
- A. You can declare a method with `Exception` as the return type.
  - B. You can declare any subclass of `Error` in the throws part of a method declaration.
  - C. You can declare any subclass of `Exception` in the throws part of a method declaration.
  - D. You can declare any subclass of `Object` in the throws part of a method declaration.
  - E. You can declare any subclass of `RuntimeException` in the throws part of a method declaration.
14. Which of the following can be inserted on line 8 to make this code compile? (Choose all that apply)
- ```
7: public void ohNo() throws IOException {  
8:    // INSERT CODE HERE  
9: }
```
- A. `System.out.println("it's ok");`
 - B. `throw new Exception();`
 - C. `throw new IllegalArgumentException();`
 - D. `throw new java.io.IOException();`
 - E. `throw new RuntimeException();`
15. Which of the following are unchecked exceptions? (Choose all that apply)
- A. `ArrayIndexOutOfBoundsException`
 - B. `IllegalArgumentException`
 - C. `IOException`
 - D. `NumberFormatException`
 - E. Any exception that extends `RuntimeException`
 - F. Any exception that extends `Exception`
16. Which scenario is the best use of an exception?
- A. An element is not found when searching a list.
 - B. An unexpected parameter is passed into a method.

- C. The computer caught fire.
- D. You want to loop through a list.
- E. You don't know how to code a method.

17. Which of the following can be inserted into `Lion` to make this code compile? (Choose all that apply)

```
class HasSoreThroatException extends Exception {}
class TiredException extends RuntimeException {}
interface Roar {
    void roar() throws HasSoreThroatException;
}
class Lion implements Roar { // INSERT CODE HERE
}
```

- A. `public void roar(){}`
- B. `public void roar() throws Exception{}`
- C. `public void roar() throws HasSoreThroatException{}`
- D. `public void roar() throws IllegalArgumentException{}`
- E. `public void roar() throws TiredException{}`

18. Which of the following are true? (Choose all that apply)

- A. Checked exceptions are allowed to be handled or declared.
- B. Checked exceptions are required to be handled or declared.
- C. Errors are allowed to be handled or declared.
- D. Errors are required to be handled or declared.
- E. Runtime exceptions are allowed to be handled or declared.
- F. Runtime exceptions are required to be handled or declared.

19. Which of the following can be inserted in the blank to make the code compile? (Choose all that apply)

```
public static void main(String[] args) {
    try {
        System.out.println("work real hard");
    } catch (_____ e) {
    } catch (RuntimeException e) {
    }
}
```

- A. `Exception`
- B. `IOException`
- C. `IllegalArgumentException`
- D. `RuntimeException`

- E. StackOverflowError
- F. None of the above.

20. What does the output of the following contain? (Choose all that apply)

```
12: public static void main(String[] args) {  
13:     System.out.print("a");  
14:     try {  
15:         System.out.print("b");  
16:         throw new IllegalArgumentException();  
17:     } catch (IllegalArgumentException e) {  
18:         System.out.print("c");  
19:         throw new RuntimeException("1");  
20:     } catch (RuntimeException e) {  
21:         System.out.print("d");  
22:         throw new RuntimeException("2");  
23:     } finally {  
24:         System.out.print("e");  
25:         throw new RuntimeException("3");  
26:     }  
27: }
```

- A. abce
- B. abde
- C. An exception with the message set to "1"
- D. An exception with the message set to "2"
- E. An exception with the message set to "3"
- F. Nothing; the code does not compile.