Module 4 -异常和断言

一、选择题：

Question 1
Click the Exhibit button.

```
10. public class ClassA {
11. public void methodA() {
12. ClassB classB = new ClassB();
13. classB.getValue();
14. }
15. }
```

And:

```
20. class ClassB {
21. public ClassC classC;
22.
23. public String getValue() {
24. return classC.getValue();
25. }
26. }
```

And:

```
30. class ClassC {
31. public String value;
32.
33. public String getValue() {
34. value = "ClassB";
35. return value;
36. }
37. }
```

Given:

```
ClassA a = new ClassA();
a.methodA();
```

What is the result?
A. Compilation fails.
B. ClassC is displayed.
C. The code runs with no output.
D. An exception is thrown at runtime.

Answer: D

Question 2
Given:

```
11. public static void test(String str) {
12. if(str == null | str.length() == 0) {
13. System.out.println("String is empty");
14. } else {
15. System.out.println("String is not empty");
```

16. }
17. }
And the invocation:
31. test(null);
What is the result?
A. An exception is thrown at runtime.
B. “String is empty” is printed to output.
C. Compilation fails because of an error in line 12.
D. “String is not empty” is printed to output.

Answer: A

Question 3
Given:
11. static void test() throws RuntimeException {
12. try {
13. System.out.print("test ");
14. throw new RuntimeException();
15. }
16. catch (Exception ex) { System.out.print("exception "); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (RuntimeException ex) { System.out.print("runtime "); }
21. System.out.print("end ");
22. }
What is the result?
A. test end
B. Compilation fails.
C. test runtime end
D. test exception end
E. A Throwable is thrown by main at runtime.

Answer: D

Question 4
Given:
10. interface Foo {}
11. class Alpha implements Foo { }
12. class Beta extends Alpha {}
13. class Delta extends Beta {
14. public static void main(String[] args) {
15. Beta x = new Beta();
16. // insert code here
17. }
18. }

Which code, inserted at line 16, will cause a
java.lang.ClassCastException?
A. Alpha a = x;
B. Foo f= (Delta)x;
C. Foo f= (Alpha)x;
D. Beta b = (Beta)(Alpha)x;

Answer: B

Question 5
Given:
23. Object [] myObjects = {
24. new Integer(12),
25. new String("foo"),
26. new Integer(5),
27. new Boolean(true)
28. };
29. Arrays.sort(myObjects);
30. for(int i=0; i<myObjects.length; i++) {
31. System.out.print(myObjects[i].toString());
32. System.out.print(" ");
33. }
What is the result?
A. Compilation fails due to an error in line 23.
B. Compilation fails due to an error in line 29.
C. A ClassCastException occurs in line 29.
D. A ClassCastException occurs in line 31.
E. The value of all four objects prints in natural order.

Answer: C

Question 6
Given:
11. public static void parse(String str) {
12. try {
13. float f= Float.parseFloat(str);
14. } catch (NumberFormatException nfe) {
15. f= 0;
16. } finally {
17. System.out.println(f);
18. }
19. }
20. public static void main(String[] args) {
21. parse("invalid");
22. }
What is the result?

A. 0.0
B. Compilation fails.
C. A ParseException is thrown by the parse method at runtime.
D. A NumberFormatException is thrown by the parse method at runtime.

Answer: B

Question 7
Given:
1. public class Boxer1 {
2. Integer i;
3. int x;
4. public Boxer1(int y) {
5. x=i+y;
6. System.out.println(x);
7. }
8. public static void main(String[] args) {
9. new Boxer1(new Integer(4));
10. }
11. }
What is the result?
A. The value "4" is printed at the command line.
B. Compilation fails because of an error in line 5.
C. Compilation fails because of an error in line 9.
D. A NullPointerException occurs at runtime.
E. A NumberFormatException occurs at runtime.
F. An IllegalStateException occurs at runtime.

Answer: D

Question 8
Given:
10. public class Foo {
11. static int[] a;
12. static { a[0]=2; }
13. public static void main(String[] args) {}
14. }
Which exception or error will be thrown when a programmer attempts to run this code?
A. java.lang. StackOverflowError
B. java.lang.IllegalStateException
C. java.lang.ExceptionlnlnitializerError
D. java.lang.ArraylndexOutOfBoundsException

Answer: C

Question 9
Given:
10. public class ClassA {
11. public void count(int i) {
12. count(++i);
13. }
14. }

And:
20. ClassA a = new ClassA();
21. a.count(3);
Which exception or error should be thrown by the virtual machine?
A. StackOverflowError
B. NullPointerException
C. NumberFormatException
D. IllegalArgumentException
E. ExceptionlnlnitializerError

Answer: A

Question 10
Given:
11.classA {
12. public void process() { System.out.print("A,"); } }
13. class B extends A {
14. public void process() throws IOException {
15. super.process();
16. System.out.print("B,");
17. throw new IOException();
18. } }
19. public static void main(String[] args) {
20. try { new B().process(); }
21. catch (IOException e) { System.out.println(”Exception”); } }
What is the result?
A. Exception
B. A,B,Exception
C. Compilation fails because of an error in line 20.
D. Compilation fails because of an error in line 14.
E. A NullPointerException is thrown at runtime.

Answer: D

Question 11
Click the Exhibit button.
SomeException:
```
1. public class SomeException {
2. }
```
Class A:
```
1. public class A {
2. public void doSomething() { }
3. }
```
Class B:
```
1. public class B extends A {
2. public void doSomething() throws SomeException { }
3. }
```

Which is true about the two classes?
A. Compilation of both classes will fail.
B. Compilation of both classes will succeed.
C. Compilation of class A will fail. Compilation of class B will succeed.
D. Compilation of class B will fail. Compilation of class A will succeed.

Answer: D

Question 12
Click the Exhibit button.
Class TestException
```
1. public class TestException extends Exception {
2. }
```
Class A:
```
1. public class A {
2.
3. public String sayHello(String name) throws TestException {
4.
5. if(name == null) {
6. throw new TestException();
7. }
8.
9. return “Hello “+ name;
10. }
11.
12. }
```
A programmer wants to use this code in an application:
```
45. A a=new A();
46. System.out.println(a.sayHello("John"));
```
Which two are true? (Choose two.)
A. Class A will not compile.
B. Line 46 can throw the unchecked exception TestException.

C. Line 45 can throw the unchecked exception TestException.
D. Line 46 will compile if the enclosing method throws a TestException.
E. Line 46 will compile if enclosed in a try block, where TestException is caught.

Answer: DE

Question 13
Given:
11. static void test() {
12. try {
13. String x=null;
14. System.out.print(x.toString() +" ");
15. }
16. finally { System.out.print("finally"); }
17. }
18. public static void main(String[] args) {
19. try { test(); }
20. catch (Exception ex) { System.out.print("exception "); }
21. }
What is the result?
A. null
B. finally
C. null finally
D. Compilation fails.
E. finally exception

Answer: E

Question 14
Given:
11. Float pi = new Float(3.14f);
12.if(pi>3) {
13. System.out.print("pi is bigger than 3. ");
14. }
15. else {
16. System.out.print("pi is not bigger than 3. ");
17. }
18. finally {
19. System.out.println("Have a nice day.");
20. }
‘What is the result?
A. Compilation fails.
B. pi is bigger than 3.
C. An exception occurs at runtime.
D. pi is bigger than 3. Have a nice day.

E. pi is not bigger than 3. Have a nice day.

Answer: A

Question 15
Given:
84. try {
85. ResourceConnection con = resourceFactory.getConnection();
86. Results r = con.query("GET INFO FROM CUSTOMER");
87. info = r.getData();
88. con.close();
89. } catch (ResourceException re) {
90. errorLog.write(re.getMessage());
91. }
92. return info;
Which is true if a ResourceException is thrown on line 86?
A. Line 92 will not execute.
B. The connection will not be retrieved in line 85.
C. The resource connection will not be closed on line 88.
D. The enclosing method will throw an exception to its caller.

Answer: C

Question 16
Click the Exhibit button.
1. public class A {
2. public void method1() {
3. B b=new B();
4. b.method2();
5. // more code here
6. }
7. }
1. public class B {
2. public void method2() {
3. C c=new C();
4. c.method3();
5. //   more code here
6. }
7. }
1. public class C {
2. public void method3() {
3. // more code here
4. }
5. }
Given:
25. try {

26. A a=new A();
27. a.method1();
28. } catch (Exception e) {
29. System.out.print("an error occurred");
30. }
Which two are true if a NullPointerException is thrown on line 3 of class C? (Choose two.)
A. The application will crash.
B. The code on line 29 will be executed.
C. The code on line 5 of class A will execute.
D. The code on line 5 of class B will execute.
E. The exception will be propagated back to line 27.

Answer: BE

Question 17
Given:
31. // some code here
32. try {
33. // some code here
34. } catch (SomeException se) {
35. // some code here
36. } finally {
37. // some code here
38. }
Under which three circumstances will the code on line 37 be executed? (Choose three.)
A. The instance gets garbage collected.
B. The code on line 33 throws an exception.
C. The code on line 35 throws an exception.
D. The code on line 31 throws an exception.
E. The code on line 33 executes successfully.

Answer: BCE

Question 18
Given:
33. try {
34. // some code here
35. } catch (NullPointerException e1) {
36. System.out.print("a");
37. } catch (RuntimeException e2) {
38. System.out.print("b");
39. } finally {
40. System.out.print("c");
41. }

What is the result if a NullPointerException occurs on line 34?

A. c
B. a
C. ab
D. ac
E. bc
F. abc

Answer: D

Question 19
Given:
11. public static void main(String[] args) {
12. try {
13. args=null;
14. args[0] = “test”;
15. System.out.println(args[0]);
16. } catch (Exception ex) {
17. System.out.println(”Exception”);
18. } catch (NullPointerException npe) {
19. System.out.println(”NullPointerException”);
20. }
21. }
What is the result?
A. test
B. Exception
C. Compilation fails.
D. NullPointerException

Answer: C

Question 20
Given:
11. static void test() throws Error {
12. if (true) throw new AssertionError();
13. System.out.print(”test “);
14. }
15. public static void main(String[] args) {
16. try { test(); }
17. catch (Exception ex) { System.out.print(”exception “); }
18. System.out.print(”elld “);
19. }

What is the result?
A. end

B. Compilation fails.
C. exception end
D. exception test end
E. A Throwable is thrown by main.
F. An Exception is thrown by main.

Answer: E

Question 21
Given:
11. static class A {
12. void process() throws Exception { throw new Exception(); }
13. }
14. static class B extends A {
15. void process() { System.out.println(”B”); }
16. }
17. public static void main(String[] args) {
18. new B().process();
19. }
What is the result?
A. B
B. The code runs with no output.
C. Compilation fails because of an error in line 12.
D. Compilation fails because of an error in line 15.
E. Compilation fails because of an error in line 18.

Answer: A

Question 22
Given:
11.classA {
12. public void process() { System.out.print(”A “); } }
13. class B extends A {
14. public void process() throws RuntimeException {
15. super.process();
16. if (true) throw new RuntimeException();
17. System.out.print(“B”); }}
18. public static void main(String[] args) {
19. try { ((A)new B()).process(); }
20. catch (Exception e) { System.out.print(”Exception “); }
21. }
What is the result?

A. Exception
B. A Exception
C. A Exception B

D. A B Exception
E. Compilation fails because of an error in line 14.
F. Compilation fails because of an error in line 19.

Answer: B

Question 23
Given:
11. static classA {
12. void process() throws Exception { throw new Exception(); }
13. }
14. static class B extends A {
15. void process() { System.out.println(”B “); }
16. }
17. public static void main(String[] args) {
18. A a=new B();
19. a.process();
20.}
What is the result?
A. B
B. The code runs with no output.
C. An exception is thrown at runtime.
D. Compilation fails because of an error in line 15.
E. Compilation fails because of an error in line 18.
F. Compilation fails because of an error in line 19.

Answer: F

Question 24
Click the Exhibit button.
1. public class A {
2. public void method1() {
3. try {
4. B b=new B();
5. b.method2();
6. // more code here
7. } catch (TestException te) {
8. throw new RuntimeException(te);
9. }
6. }
7. }
1. public class B {
2. public void method2() throws TestException {
3. // more code here
4. }
5. }

1. public class TestException extends Exception {
2. }
Given:
31. public void method() {
32. A a=new A();
33. a.method1();
34. }
Which is true if a TestException is thrown on line 3 of class B?
A. Line 33 must be called within a try block.
B. The exception thrown by method1 in class A is not required to be caught.
C. The method declared on line 31 must be declared to throw a RuntimeException.
D. On line 5 of class A, the call to method2 of class B does not need to be placed in a try/catch block.

Answer: B

Question 25
Given:
12. public class AssertStuff {
13.
14. public static void main(String [] args) {
15. int x= 5;
16. int y= 7;
17.
18. assert (x> y): “stuff”;
19. System.out.println(”passed”);
20. }
21. }
And these command line invocations:
java AssertStuff
java -ea AssertStuff
What is the result?
A. passed
stuff
B. stuff
passed
C. passed
An AssertionError is thrown with the word “stuff” added to the stack trace.
D. passed
An AssertionError is thrown without the word “stuff” added to the stack trace.
E. passed
An AssertionException is thrown with the word “stuff” added to the

stack trace.
F. passed
An AssertionException is thrown without the word “stuff” added to the stack trace.

Answer: C

Question 26
Click the Exhibit button.
```
1. public class Test {
2.
3. public static void main(String [] args) {
4. boolean assert = true;
5. if(assert) {
6. System.out.println(”assert is true”);
7. }
8. }
9.
10. }
```
Given:
javac -source 1.3 Test.java
What is the result?
A. Compilation fails.
B. Compilation succeeds with errors.
C. Compilation succeeds with warnings.
D. Compilation succeeds without warnings or errors.

Answer: C

Question 27
Given:
```
23.int z=5;
24.
25. public void stuff1(int x) {
26. assert (x> 0);
27. switch(x) {
28. case 2: x= 3;
29. default: assert false; } }
30.
31. private void stuff2(int y) { assert (y < 0); }
32.
33. private void stuff3() { assert (stuff4()); }
34.
35. private boolean stuff4() { z = 6; return false; }
```
Which is true?
A. All of the assert statements are used appropriately.

B. Only the assert statement on line 31 is used appropriately.
C. The assert statements on lines 29 and 31 are used appropriately.
D. The assert statements on lines 26 and 29 are used appropriately.
E. The assert statements on lines 29 and 33 are used appropriately.
F. The assert statements on lines 29, 31, and 33 are used appropriately.
G. The assert statements on lines 26, 29, and 31 are used appropriately.

Answer: C

Question 28
Given a method that must ensue that its parameter is not null:
11. public void someMethod(Object value) {
12. // check for null value
....
20. System.out.println(value.getClass());
21. }
What, inserted at line 12, is the appropriate way to handle a null value?
A. assert value == null;
B. assert value !null, “value is null”;
C. if (value == null) {
throw new AssertionException(”value is null”);
D. if (value == null) {
throw new IllegalArgumentException(”value is null”);

Answer: D

Question 29
Given:
8. public class test {
9. public static void main(String [] a) {
10. assert a.length == 1;
11. }
12. }
Which two will produce an AssertionError? (Choose two.)
A. java test
B. java -ea test
C. java test file1
D. java -ea test file1
E. java -ea test file1 file2
F. java -ea:test test file1

Answer: BE