OCA Junior
Java Foundations
Exam Preparation (1Z0-811)

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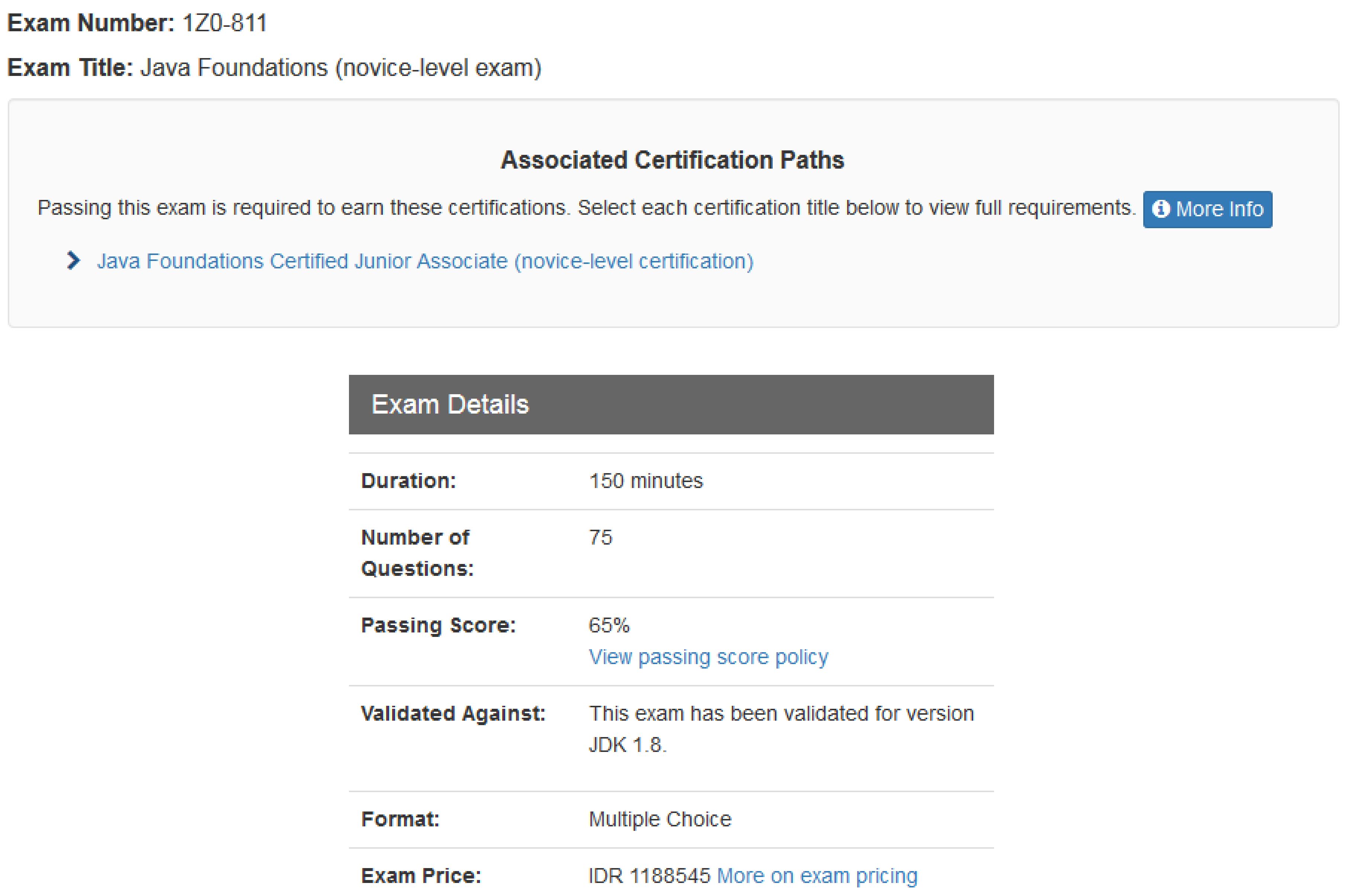


Exam Number: 1Z0-811

Exam Title: Java Foundations (novice-level exam)

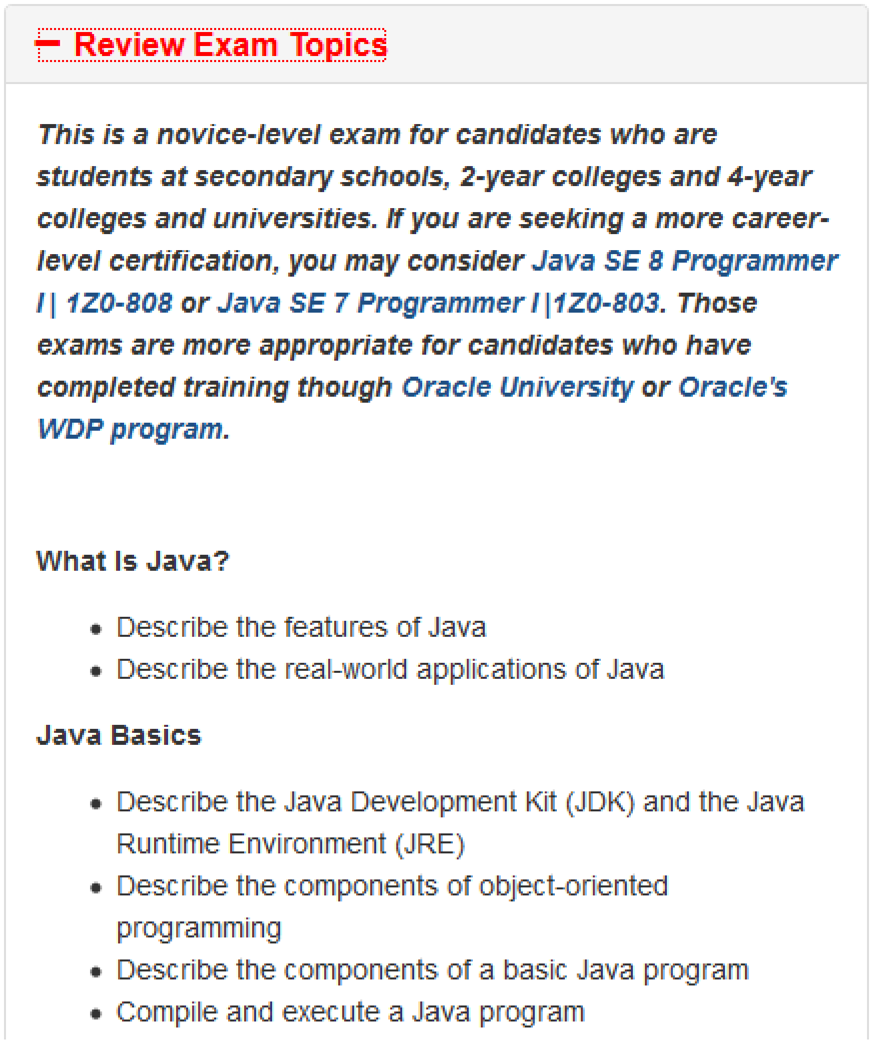
Associated Certification Paths

Passing this exam is required to earn these certifications. Select each certification title below to view full requirements. More Info

- Java Foundations Certified Junior Associate (novice-level certification)

Exam Details

Duration:	150 minutes
Number of Questions:	75
Passing Score:	65% View passing score policy
Validated Against:	This exam has been validated for version JDK 1.8.
Format:	Multiple Choice
Exam Price:	IDR 1188545 More on exam pricing



− Review Exam Topics

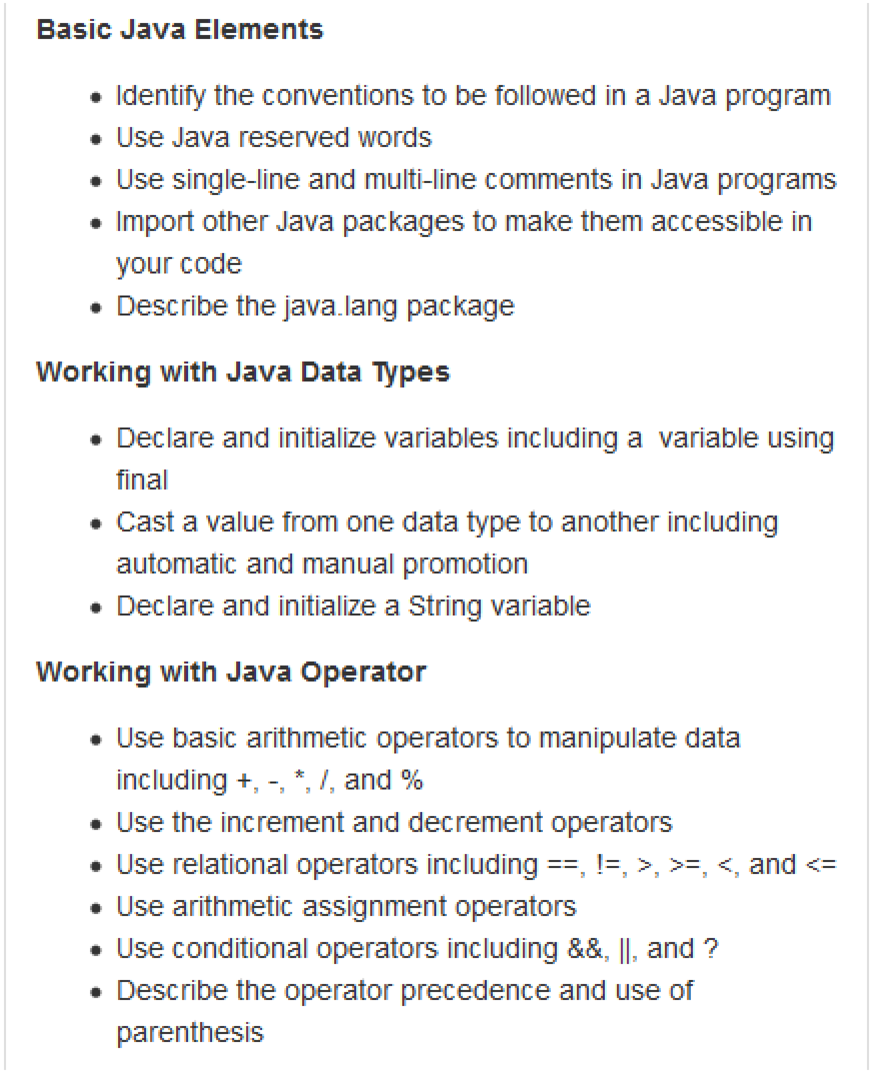
This is a novice-level exam for candidates who are students at secondary schools, 2-year colleges and 4-year colleges and universities. If you are seeking a more career-level certification, you may consider Java SE 8 Programmer I| 1Z0-808 or Java SE 7 Programmer I |1Z0-803. Those exams are more appropriate for candidates who have completed training though Oracle University or Oracle's WDP program.

What Is Java?

- Describe the features of Java
- Describe the real-world applications of Java

Java Basics

- Describe the Java Development Kit (JDK) and the Java Runtime Environment (JRE)
- Describe the components of object-oriented programming
- Describe the components of a basic Java program
- Compile and execute a Java program



Basic Java Elements

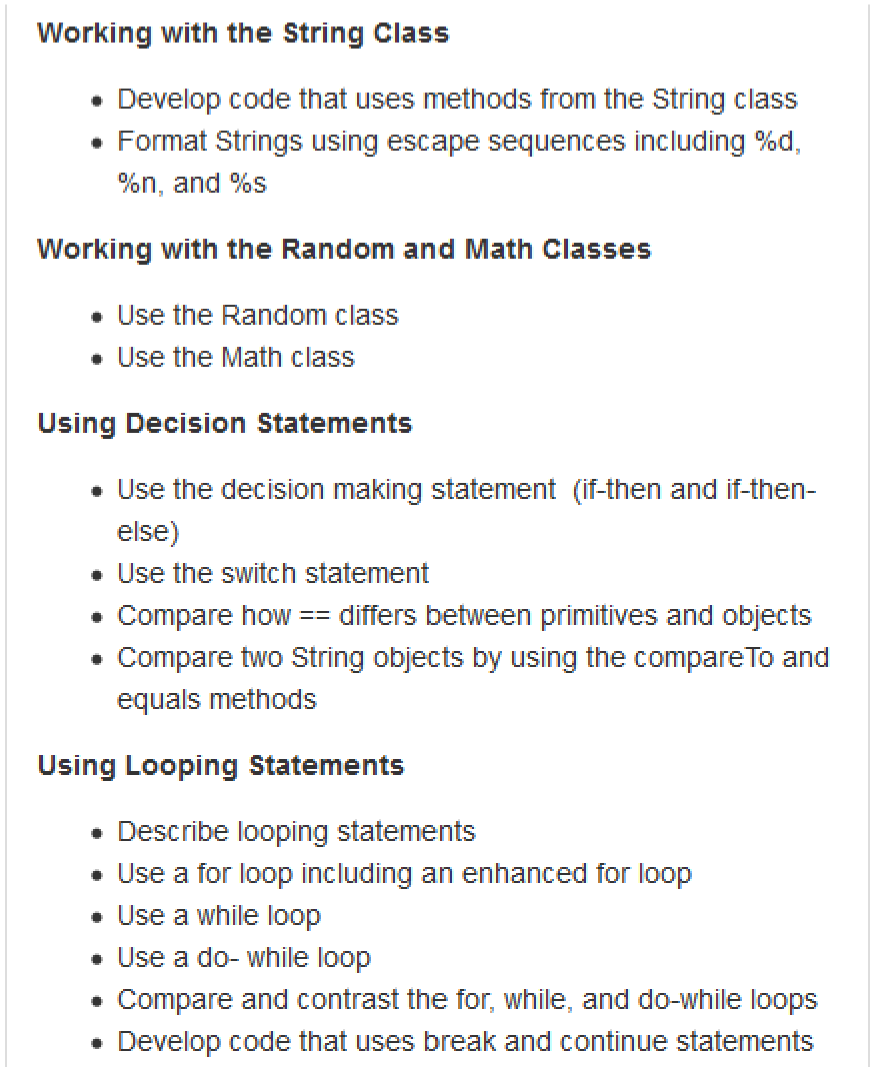
- Identify the conventions to be followed in a Java program
- Use Java reserved words
- Use single-line and multi-line comments in Java programs
- Import other Java packages to make them accessible in your code
- Describe the java.lang package

Working with Java Data Types

- Declare and initialize variables including a variable using final
- Cast a value from one data type to another including automatic and manual promotion
- Declare and initialize a String variable

Working with Java Operator

- Use basic arithmetic operators to manipulate data including +, -, *, /, and %
- Use the increment and decrement operators
- Use relational operators including ==, !=, >, >=, <, and <=
- Use arithmetic assignment operators
- Use conditional operators including &&, ||, and ?
- Describe the operator precedence and use of parenthesis



Working with the String Class

- Develop code that uses methods from the String class
- Format Strings using escape sequences including %d, %n, and %s

Working with the Random and Math Classes

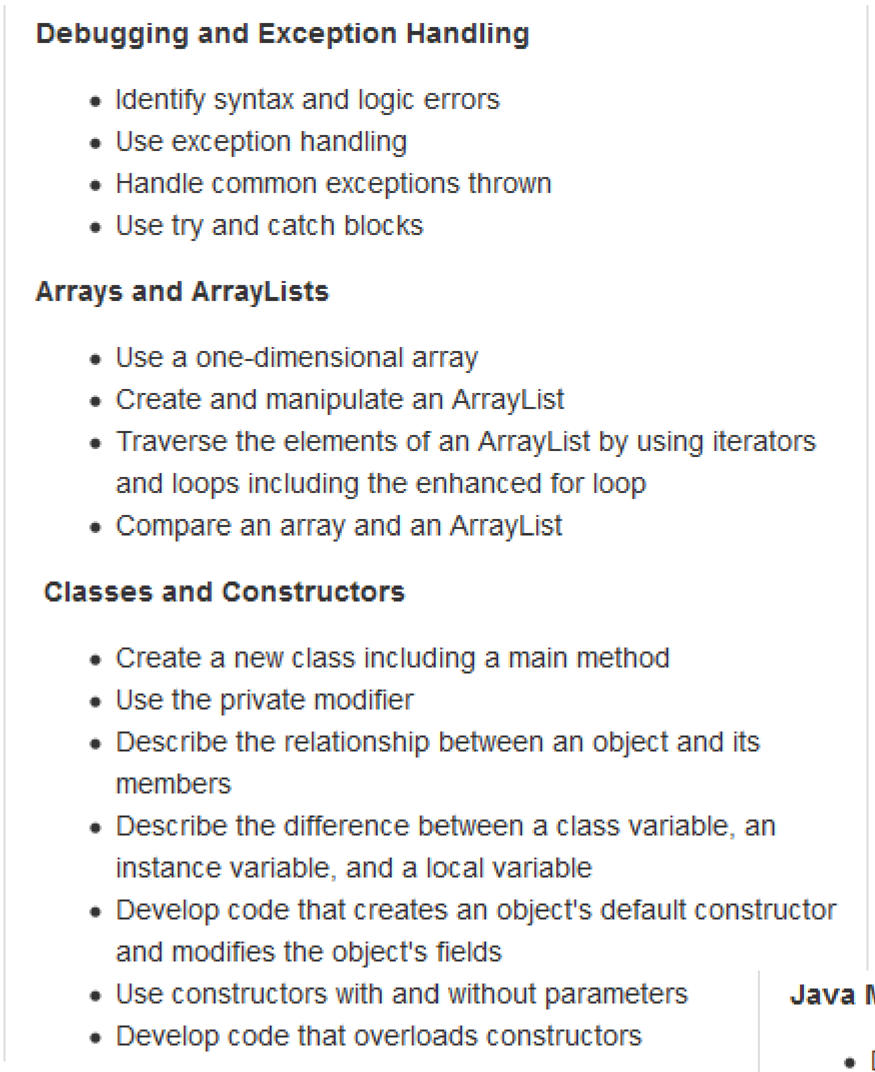
- Use the Random class
- Use the Math class

Using Decision Statements

- Use the decision making statement (if-then and if-then-else)
- Use the switch statement
- Compare how == differs between primitives and objects
- Compare two String objects by using the compareTo and equals methods

Using Looping Statements

- Describe looping statements
- Use a for loop including an enhanced for loop
- Use a while loop
- Use a do- while loop
- Compare and contrast the for, while, and do-while loops
- Develop code that uses break and continue statements



Debugging and Exception Handling

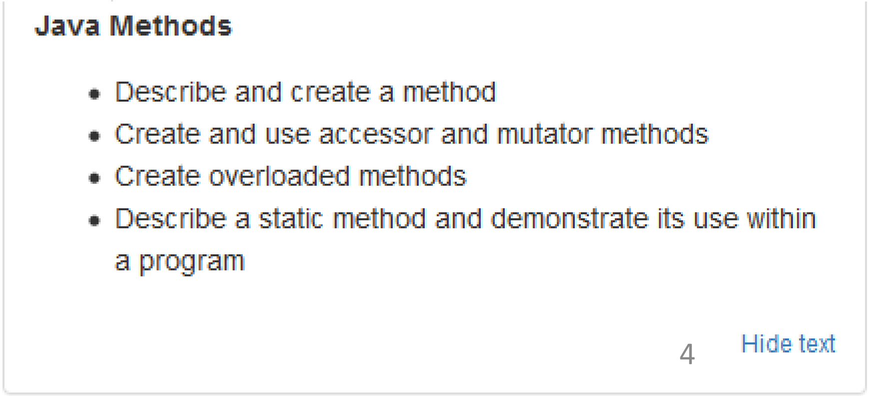
- Identify syntax and logic errors
- Use exception handling
- Handle common exceptions thrown
- Use try and catch blocks

Arrays and ArrayLists

- Use a one-dimensional array
- Create and manipulate an ArrayList
- Traverse the elements of an ArrayList by using iterators and loops including the enhanced for loop
- Compare an array and an ArrayList

Classes and Constructors

- Create a new class including a main method
- Use the private modifier
- Describe the relationship between an object and its members
- Describe the difference between a class variable, an instance variable, and a local variable
- Develop code that creates an object's default constructor and modifies the object's fields
- Use constructors with and without parameters
- Develop code that overloads constructors



Java Methods

- Describe and create a method
- Create and use accessor and mutator methods
- Create overloaded methods
- Describe a static method and demonstrate its use within a program

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1. Given the code fragment:

String name = “Angel”;

int score = 70;

System.out.printf(“Miss. %s’s score is %d “, name, score);

What is the result?

A. Miss. 70’s score is Angel
B. Miss. Angel’s score is 70
C. An exception is thrown at run time
D. A compilation error occurs

2. Given the code fragment:

```
public static void main(String [] args) {
        Boolean gotMilk = true;
        ArrayList<String> shoppingList = new ArrayList<>();
         shoppingList.add(“Sugar”);
         shoppingList.add(“Butter”);
         shoppingList.add(“Eggs”);
        gotMilk = shoppingList.contains(“Milk”);
        if(gotMilk) {
                System.out.println(“The shopping list is complete”);
        } else {
                System.out.println(“You forgot the milk”);
        }
}
```

What is the result?

A. A compilation error occurs
B. A runtime exception is thrown
C. You forgot the milk
D. The shopping list is complete

3. Given the code fragment:

```
// line n1
num = new int[10];
```

Which code fragment can be inserted at line n1 to enable the code to compile?

A. int [ ] num;

B. int num [10];

C. int [10] num;

D. new int num [ ];

4. Which statement is valid?

A. int 2totalScore = 0;
B. int total score = 0;
C. int totalScore2 = 0;
D. int total-score = 0;

5. Given the code fragment:

```
int a = 3;
int b = 2;
int c = -1;
if(a + b % c > (a + (-b) * (-c))) {
        System.out.println(a + b - c);
}
```

What is the result?

A. A compilation error occurs
B. There is no output
C. 4
D. 6

6. Given the code fragment

```
String [] flowers =
{“lotus”,”lily”,”rose”,”jasmine”};
for(String c : flowers) {
   if(c.length() < 4) {
      continue;
   }
   System.out.print(c + “ “);
   if(c.length() == 4) {
      break;
   }
}
```

A. A compilation error occurs.
B. lotus
C. lotus lily
D. lotus jasmine

7. Given the code fragment

```
String s1 = “cat”;
String s2 = new String(s1);
System.out.println(s1.equals(s2) + “:” + (s1 == s2) + “:” +
s1.compareTo(s2));
```

What is the result?

A. true:true:1

B. false:true:0

C. true:false:0

D. True:0:true

8. Given the code fragment

```
int num = 100;
int count = 0;
do {
    num--;
    count++;
} while (count > 1);
System.out.println(“num = ” +
num);
```

A. num = 100;
B. num = 0;
C. num = 99;
D. The program executes indefinitely

9. Given the code fragment

```
int value = 10;
int a = ++value;
int b = value;
int c = value++;
if(a <= b && a <= c) {
   if(b <= c) {
      a = ++b;
   } else {
      a = ++c;
   }
}
System.out.println(a);
```

What is the result?

A. 13
B. 11
C. 10
D. 12

10. Given the code fragment

```
class Ball {
  double weight;
}
public class App {
  public static void main(String [] args) {
    // line n1
    System.out.println(b.weight);
  }
}
```

Which code fragment can be iserted at line1 to enable code to print 0.0?

A. Ball.weight = 0.0;

B. Ball b = null;

   b.weight = 0.0;

C. Ball b = new Ball(0.0);

D. Ball b = new Ball();

11. Given the code fragment

```
1.  class App {
2.
3.  }
```

Which two code fragments are valid at line 2?

A.
```
{
    private int num;
}
```

B.
```
private String name = “John”;
public void dispay() {
    System.out.print(name);
}
```

C.
```
package p1;
```

D.
```
import java.util.*;
public void display(){
    List<Integer> nums =
                        new ArrayList<>();
}
```

E.
```
for(int count = 0; count < 5; count++) {
     System.out.print(count);
}
```

12. Given the code fragment

```
List<String> names = new ArrayList<>();
names.add(“Julia”);
names.add(“Peter”);
for(Iterator<String> itr = names.iterator(); itr.hasNext();) {
        System.out.println(itr.next());
}
```

What is the result?

A. Julia Peter	B. Peter Julia	C. A compilation error occurs D. A runtime exception is thrown

13. Which statement is true about Java applications?

A. They can run only on any Java Virtual Machine
B. They depend on computer architecture
C. They can run only if the appropriate Java Development Kit is available
D. They can run only on the Java Virtual Machine upon which the application was developed

14. Given the code fragment

Given the code fragment:

```
boolean checkOut = true;
int days = 0;
while(checkOut) {
    days++;
    if(days > 3) {
        checkOut = false;
    }
}
System.out.println(days);
```

What is the result?

A. 2

B. 3

C. 4

D. The program executes an infinite number of times

15. Given the code fragment

```
int a = 3;
a = ++a + a++;
a = --a – a--;
System.out.println(a);
```

What is the output?

A. A compilation error occurs

B. 3

C. 8

D. 0

16. Given the code fragment

```
public static void main(String [ ] args) {
    int a = 10, b = 15;
    boolean result = false;
    // line n1
    System.out.println(result);
}
```

Which two statements, when inserted at line n1 independently, enable the code to print true?

A. result = a == b;
B. result = a != b;
C. result = a > b;
D. result = ! (a > b);
E. result = (a ! > b)

17. Given the code fragment

```
short x = 1;
String y = “2”;
System.out.println(y + x);
```

What is the output?

A. arrays

B. char

C. String

D. short

18. Which statement prints a random number with values only from 1 to 10?

A. System.out.println(Math.random() * 10);

B. System.out.println(Math.round(Math.random() % 9));

C. System.out.println(Math.round(Math.random() *10));

D. System.out.println(1 + Math.round(Math.random() *9));

19. Given the Car.java file:

```
public class Car {
    public static void main(String [ ] args) {
        System.out.print(args[0]);
    }
}
```

Which option enables you to print Win! ?

A. javac Car.java
   java Car.class Win!
B. javac Car.java Win!
   java Car.class
C. javac Car.java
   java Car Win!
D. javac Car.java Win!
   java Car

20. Given:

```
public class Test {
    int var1;                  // line n1
    public static void main(String [ ] args) {
        int var2;          // line n2
        Test obj = new Test();
        int var3 = var2 + obj.var1;
        System.out.println(var3);
    }
}
```

What is the result?

A. Compilation fails. To make it compile, replace line n1 with var1 = 0;

B. 0

C. Nothing is printed

D. Compilation fails. To make it compile, replace line2 with var2 = 0;

21. Given:

```
String test = “a”;
for( ; test.compareTo(“aaa”) == 0 ; test = test + “a”)
    System.out.print(test.length() + “ “);
System.out.print(test);
```

What is the output?

A. Compilation fails
B. 1 2 3 aaaa
C. a
D. 1 2 aaa

22. Given

```
class Product {
   String color = null;
   Product (Product p) {
         this.color = p.color;
   }
}
```

And the code fragment:

```
Product p1 = new Product();          // line n1
p1.color = “White”;
Product p2 = new Product(p1);
System.out.println(p1.color + “ | “ + p2.color);
```

What is the result?

A. A compilation error occurs at line n1
B. null | null
C. White | null
D. White | White

23. Given

```
class Messenger {
    String msg;
    Messenger(String msg) {
        this.msg = msg;
    }
    public void writeMsg() {
        System.out.println(msg);
    }
    public void readMsg() {
        // line n1
    }
}
```

And the code fragment:

```
Messenger m = new Messenger("All the best");
m.readMsg();
```

Which code fragment can be inserted at line n1 to enable the code to print All the best?

A. Messenger.writeMsg();
B. m.writeMsg();
C. writeMsg();
D. void writeMsg();

24. Given

```
class Product {
    int id;
    Product(int id) {
            this.id = id;
    }
}
public class Test {
    public static void main(String [] args) {
            List<Product> pts = new ArrayList<>();
            pts.add(new Product(100));
            pts.add(new Product(200));
            // line n1
    }
}
```

Which code fragment, when inserted at line n1, enable the code to print 100:200?

A.
```
Iterator<Product> i = pts.iterator();
while(i.hasNext()) {
    System.out.print(i.next() + " : ");
}
```

B.
```
for(int cn = 0; cn < pts.size(); cn++) {
    System.out.print(pts.id + " : ");
}
```

C.
```
for(int id : pts) {
    System.out.print(pts.id + " : ");
}
```

D.
```
for(Product pt : pts) {
    System.out.print(pts.id + " : ");
}
```

25. Given

```
class Bus {
   String type = “default”;
   // line n1
   Bus(String type) {
          // line n2
          this.type = type;
   }
}
public class App {
   public static void main(String [ ] args) {
          Bus b1 = new Bus();
          System.out.println(b1.type);
          Bus b2 = new Bus(“luxury”);
   }
}
```

Which is the result?

A. The code compiles and prints:

```
default
luxury
```

B. The code fails to compile. To make it compile, at line n1 insert:

```
this() { }
```

C. The code fails to compile. To make it compile, at line n1 insert:

```
this();
```

D. The code fails to compile. To make it compile, at line n1 insert:

```
Bus() { }
```

26. Given the code fragment

```
int [ ] num = new int[2];
num[0] = 10;
num[1] = 15;
List<Integer> lst =
        new ArrayList<>(2);
lst.add(10);
lst.add(15);
num[1] = 20;
lst.add(20);
```

```
for(int x : num) { System.out.print(x + " "); }
System.out.println("");
for(int y : lst) { System.out.print(y + " "); }
```

What is the result?

A. A compilation error occurs

B. 10 20
   10 20

C. 10 20
   10 15 20

D. A runtime exception is thrown

27. Given

```
public class App {
   public void find(int x, int y) {
      try {
         int z = x / y;
      } catch (Exception e) {
         System.out.println(“find() - exception”);
      }
   }

   public static void main(String [ ] args) {
      App obj = new App();
      int [ ] array = {10, 0};
      try {
         obj.find(array[0], array[1]);;
      } catch (Exception e) {
         System.out.println(“main() - exception”);
      }
   }
}
```

27. Contd.

What is the result?

A. A compilation error occurs
B. find() – exception
C. main() – exception
D. find() – exception
   main() – exception

28. Given

```
public class Course {
   String courseName;
}
public class Student {
   String stuName;
   public static void main(String [ ] args) {
              Student s = new Student();
              s.stuName = args[0];
              Course c = new Course();
              c.courseName = args[1];
              System.out.println(s.stuName + " is studying " + c.courseName);
   }
}
```

28. Contd.

Which statement is true?

A. The commands:

```
javac Student.java
java Student Richard William Java
```

are used to print Richard William is studying Java

B. The commands:

```
javac Student.java
java Student “Richard William” Java
```

are used to print Richard William is studying Java

28. Contd.

C. The commands:
    javac Student.java
    java Student Richard William Java
    throw an errpr about missing Course.class file

D. The commands:
    javac Course.java
    javac Student.java
    java Course
    java Student “Richard William” Java
    are used to print Richard William is studying Java

29. Which statement is true about static methods?

A. Static methods and variables can be invoked by using the class name directly
B. Static methods are accessed with objects
C. Static methods can be inherited by derived class
D. Non-static variables and methods can not access static variables and methods

30. Which three statements are true about the structure of a Java class?

A. A class can have only one private constructor.
B. A method can have the same name as a field.
C. A class can have overloaded static methods.
D. A public class must have a main method.
E. The methods are mandatory components of a class.
F. The fields need not be initialized before use.

31. Which of the following are the advantages of Instance methods?

A. Instance methods can be overridden and overloaded.

B. They can be accessed by using an instance of the class using the dot operator.

C. Static variables cannot be accessed from the instance methods.

D. Methods having private access in a class are not inherited.