WOSO 2017 - Source Code (Java)

Q 1 - Which of the following is false about String?
    A. String is immutable.
    B. String can be created using new operator.
    C. String is a primary data type.
    D. None of the above.

Q 2 - What is true about a final class?
    A. Class declared final is a final class.
    B. Final classes are created so the methods implemented by that class cannot be overridden.
    C. It can't be inherited.
    D. All of the above.

Q 3 - This is the parent of Error and Exception classes.
    A. Throwable
    B. Catchable
    C. MainError
    D. MainException

Q 4 - Can try statements be nested?
    A. True.
    B. False.

Q 5- Which of the following is smallest integer data type ?
    A. Long
    B. Int
    C. Short
    D. Byte

Q 6- What is the range of byte data type is ?
    A. -128 to 255
    B. -128 to 256
    C. -128 to 127
    D. -127 to 128

Q 7- Which value can not store character data type.
    A. Digit
    B. Special character
    C. String
    D. Letter

Q 8- Which of these class is used to read characters in a file?
    A. FileReader
    B. FileWriter
    C. FileInputStream

D. InputStreamReader

Q 9- Which of these class can be used to implement input stream that uses a character array as the source?
   A. BufferedReader
   B. FileReader
   C. CharArrayReader
   D. FileArrayReader

Q 10- Which of these classes can return more than one character to be returned to input stream?
   A. BufferedReader
   B. Bufferedwriter
   C. PushbachReader
   D. CharArrayReader

Q 11- What is the output of the following program ?

```java
import java.io.*;
   class filesinputoutput {
       public static void main(String args[]) {
           InputStream obj = new
FileInputStream("inputoutput.java");
           System.out.print(obj.available());
       }
    }
```

   A. true
   B. false
   C. prints number of bytes in file
   D. prints number of characters in the file

Q 12- What is the output of the following program ?

```java
import java.io.*;
   class Chararrayinput {
       public static void main(String[] args) {
         String obj  = "abcdef";
           int length = obj.length();
           char c[] = new char[length];
           obj.getChars(0,length,c,0);
           CharArrayReader input1 = new CharArrayReader(c);
           CharArrayReader input2 = new CharArrayReader(c, 0, 3);
           int i;
           try {
         while ((i = input1.read()) != -1) {
               System.out.print((char)i);
             }
            }
           catch (IOException e) {
```

```
                // TODO Auto-generated catch block
                    e.printStackTrace();
            }
        }
    }
```

A. abc
B. abcd
C. abcde
D. abcdef

Q 13- Which of these packages contain classes and interfaces used for input & output operations of a program?
    A. java.util
    B. java.lang
    C. java.io
    D. All of the mentioned

Q 14- Which of these class is not a member class of java.io package?
    A. String
    B. StringReader
    C. Writer
    D. File

Q 15- Which of these is specified by a File object?
    A. a file in disk
    B. directory path
    C. directory in disk
    D. None of the mentioned

Q 16- What is the output of the following program?
```
import java.io.*;
    class files {
        public static void main(String args[]) {
            File obj = new File("/java/system");
            System.out.print(obj.getName());
        }
    }
```
    A. java
    B. system
    C. java/system
    D. /java/system

Q 17- Which is not a class invariant for this class ?
```
        class Timestamp {
```

```
 int year, month, day;
}
```

A. 0<day<32
B. 0<month<13
C. 0<year<2500
D. if(month==2)day<30
E. a to String()method returns a string in the form"June032017"

Q 18- Suppose that X, Y and Z are classes, Y extends X, Z extends Y, and variables x, y, and z are defined by:

```
X x = new X();
Y y = new Y();
Z z = new Z();
```

Then which of these statements will compile and run:

```
i. x = z;
ii. z=x;
iii. z = (Z)x;
iv. y = (Z)x;
```

A. None of them.
B. Only i.
C. Only i and iii.
D. Only i, ii, and iii.
E. Only i, iii, and iv.
F. All four statements.

Q 19- When does Exceptions in Java arises in code sequence?
A. Run Time
B. Compilation Time
C. Can Occur Any Time
D. None of the mentioned

Q 20- What is the output of the program ?
```
class exception_handling {
    public static void main(String args[]) {
        try {
            int i, sum;
            sum = 10;
            for (i = -1; i < 3 ;++i)
                sum = (sum / i);
        }
        catch(ArithmeticException e) {
        System.out.print("0");
        }
        System.out.print(sum);
```

```
        }
    }
```

    A. 0
    B. 05
    C. Compilation Error
    D. Runtime Error

Q 21- Which of these keywords is used to manually throw an exception?
    A. try
    B. finally
    C. throw
    D. catch

Q 22-. Which of these keywords is not a part of exception handling?
    A. try
    B. finally
    C. thrown
    D. catch

Q 23- What is the output of the program ?

```java
class fibonacci
{
    static int fib(int n)
     {
         /* Declare an array to store Fibonacci numbers. */
      int f[]  = new int[n+1];
      int i;

      /* 0th and 1st number of the series are 0 and 1*/
      f[0] = 0;
      f[1] = 1;

      for (i = 2; i <= n; i++)
      {
          f[i] = f[i-1] + f[i-2];
      }

      return f[n];
      }

      public static void main (String args[])
      {
          int n = 9;
          System.out.println(fib(n));
      }
}
```

A. 34
B. 35
C. 33
D. 32

Q 24- Java was developed by _____.
A. Sun Microsystems
B. Microsoft
C. Oracle
D. IBM
E. Cisco Systems

Q25- Which of the following statements is correct?
A. Every line in a program must end with a semicolon.
B. Every statement in a program must end with a semicolon.
C. Every comment line must end with a semicolon.
D. Every method must end with a semicolon.
E. Every class must end with a semicolon.

Q26- _____ is a software that interprets Java bytecode.
A. Java virtual machine
B. Java compiler
C. Java debugger
D. Java API

Q 27- Java compiler translates Java source code into _____.
A. Java bytecode
B. machine code
C. assembly code
D. another high-level language code

Q 28- Computer can execute the code in _____.
A. machine language
B. assembly language
C. high-level language
D. none of the above

Q 29- Which of the following lines is not a Java comment?
A. /** comments */
B. // comments
C. -- comments
D. /* comments */
E. ** comments **

Q 30- If you forget to put a closing quotation mark on a string, what kind error will be raised?
A. a compilation error
B. a runtime error
C. a logic error

Q 31- Which of the following statements are true?
   A. Text I/O is built upon binary I/O to provide a level of abstraction for character encoding and decoding.
   B. Text I/O does not involves encoding and decoding.
   C. Binary I/O does require conversions.
   D. Binary I/O is not more efficient than text I/O, because binary I/O does not require encoding and decoding.
   E. Binary files are dependent of the encoding scheme on the host machine and thus are portable.

Q 32- Which of the following statements are true?
   A. A File object encapsulates the properties of a file or a path, but does contain the methods for reading/writing.
   B. You cannot use the PrintWriter class for outputting text to a file.
   C. You cannot use the Scanner class for reading text from a file.
   D. An input object is also called an input stream.

Q 33- With which I/O class can you append or update a file?
   A. RandomAccessFile(),
   B. OutputStream()
   C. DataOutputStream()
   D. None of the above

Q 34- A method must declare to throw _____.
   A. unchecked exceptions
   B. checked exceptions
   C. Error
   D. RuntimeException

Q 35- Which of the following statements are true?
   A. You use the keyword throws to declare exceptions in the method heading.
   B. A method may declare to throw multiple exceptions.
   C. To throw an exception, use the keyword throw.
   D. If a checked exception occurs in a method, it must be either caught or declared to be thrown from the method.

Q 36- Analyze the following code:
```
class Test {
  public static void main(String[] args)
    throws MyException {
    System.out.println("Welcome to Java");
  }
}

class MyException extends Error {
}
```

A. You should not declare a class that extends Error, because Error raises a fatal error that terminates the program.
B. You cannot declare an exception in the main method.
C. You declared an exception in the main method, but you did not throw it.
D. The program has a compilation error.

Q 37- What exception type does the following program throw?
```
public class Test {
  public static void main(String[] args) {
    String s = "abc";
    System.out.println(s.charAt(3));
  }
}
```

A. ArithmeticException
B. ArrayIndexOutOfBoundsException
C. StringIndexOutOfBoundsException
D. ClassCastException
E. No exception

Q 38- An instance of _____ are unchecked exceptions.
A. RuntimeException
B. Exception
C. Error
D. Throwable
E. NumberFormatException

Q 39- The following code fragment reads in two numbers:
```
Scanner input = new Scanner(System.in);
int i = input.nextInt();
double d = input.nextDouble();
```

What are the correct ways to enter these two numbers?
A. Enter an integer, a space, a double value, and then the Enter key.
B. Enter an integer, a double value, and then the Enter key.
C. Enter a numeric value with a decimal point, a space, an integer, and then the Enter key.

Q 40- The _____ method returns a raised to the power of b.
A. Math.power(a, b)
B. Math.exponent(a, b)
C. Math.pow(a, b)
D. Math.pow(b, a)

Q 41- What is the value of i printed?
```
public class Test {
  public static void main(String[] args) {
    int j = 0;
```

```
    int i = ++j + j * 5;

    System.out.println("What is i? " + i);
  }
}
```

    A. 0
    B. 1
    C. 5
    D. 6

Q 42- What is y displayed?
```
public class Test {
  public static void main(String[] args) {
    int x = 1;
    int y = x + x++;
    System.out.println("y is " + y);
  }
}
```

    A. y is 1.
    B. y is 2.
    C. y is 3.
    D. y is 4.

Q 43- Suppose i is an int type variable. Which of the following statements display the character whose Unicode is stored in variable i?
    A. System.out.println(i);
    B. System.out.println((char)i);
    C. System.out.println((int)i);
    D. System.out.println(i + " ");

Q 44- _____ is the code with natural language mixed with Java code.
    A. Java program
    B. A Java statement
    C. Pseudocode
    D. A flowchart diagram

Q 45- Analyze the following code.
```
int count = 0;
while (count < 100) {
  // Point A
  System.out.println("Welcome to Java!");
  count++;
  // Point B
}

  // Point C
```

A. count < 100 is always true at Point A
B. count < 100 is always true at Point B
C. count < 100 is always false at Point B
D. count < 100 is always true at Point C
E. count < 100 is always false at Point C

Q 46- Analyze the following statement:

```
double sum = 0;
for (double d = 0; d < 10;) {
  d += 0.1;
  sum += sum + d;
}
```

A. The program has a compile error because the adjustment is missing in the for loop.
B. The program has a compile error because the control variable in the for loop cannot be of the double type.
C. The program runs in an infinite loop because d<10 would always be true.
D. The program compiles and runs fine.

Q 47- Which of the following loops prints "Welcome to Java" 10 times?
A:

```
for (int count = 1; count <= 10; count++) {
  System.out.println("Welcome to Java");
}
```

B:

```
for (int count = 0; count < 10; count++) {
  System.out.println("Welcome to Java");
}
```

C:

```
for (int count = 1; count < 10; count++) {
  System.out.println("Welcome to Java");
}
```

D:

```
for (int count = 0; count <= 10; count++) {
  System.out.println("Welcome to Java");
}
```

A. BD
B. ABC
C. AC
D. BC
E. AB

Q 48- Given the following four patterns,

```
Pattern A          Pattern B          Pattern C          Pattern D
1                  1 2 3 4 5 6                    1       1 2 3 4 5 6
1 2                1 2 3 4 5                    2 1         1 2 3 4 5
1 2 3              1 2 3 4                    3 2 1           1 2 3 4
1 2 3 4            1 2 3                    4 3 2 1             1 2 3
1 2 3 4 5          1 2                    5 4 3 2 1               1 2
1 2 3 4 5 6        1                    6 5 4 3 2 1                 1
```

Which of the pattern is produced by the following code?

```
for (int i = 1; i <= 6; i++) {
    for (int j = 6; j >= 1; j--)
        System.out.print(j <= i ? j + " " : " " + " ");
    System.out.println();
}
```

    A. Pattern A
    B. Pattern B
    C. Pattern C
    D. Pattern D

Q 49- Suppose the input for number is 9. What is the output from running the following program?

```java
import java.util.Scanner;

public class Test {
  public static void main(String[] args) {
    Scanner input = new Scanner(System.in);
    System.out.print("Enter an integer: ");
    int number = input.nextInt();

    int i;

    boolean isPrime = true;
    for (i = 2; i < number && isPrime; i++) {
      if (number % i == 0) {
        isPrime = false;
      }
    }

    System.out.println("i is " + i);

    if (isPrime)
      System.out.println(number + " is prime");
    else
      System.out.println(number + " is not prime");
  }
}
```

A. i is 3 followed by 9 is prime
B. i is 3 followed by 9 is not prime
C. i is 4 followed by 9 is prime
D. i is 4 followed by 9 is not prime

Q 50- Analyze the following code:

```
public class Test {
  public static void main(String[] args) {
    System.out.println(xMethod(5, 500L));
  }

  public static int xMethod(int n, long l) {
    System.out.println("int, long");
    return n;
  }

  public static long xMethod(long n, long l) {
    System.out.println("long, long");
    return n;
  }
}
```

A. The program displays int, long followed by 5.
B. The program displays long, long followed by 5.
C. The program runs fine but displays things other than 5.
D. The program does not compile because the compiler cannot distinguish which xmethod
   to invoke.