Topic: Abstract Classes, Interfaces

1.Which is a valid method signature in an interface?

a)private int getArea();
b)protected float getVol(float x);
c) public static void main(String [] args);
d)boolean setFlag(Boolean [] test []);

2.Which statement is true about interfaces?

a) Interfaces allow multiple implementation inheritance.
b)Interfaces can extend any number of other interfaces.
c) Members of an interface are never static.
d)Members of an interface can always be declared static.

3.Which statement is true about interfaces?

a) The keyword extends is used to specify that an interface inherits from another interface.
b) The keyword extends is used to specify that a class inherits from an interface.
c) The keyword implements is used to specify that an interface inherits from another interface.
d)The keyword implements is used to specify that a class inherits from another class.

4.Which of the field declaration is legal within the body of an interface?

a) protected static int answer = 42;
b)volatile static int answer = 42;
c)int answer = 42;
d)private final static int answer = 42;

5.Which declaration prevents creating a subclass of a top level class?

a) private class Javacg{}
b)abstract public class Javacg{}
c)final public class Javacg{}
d)final abstract class Javacg{}

6.Here is an abstract method defined in the parent:

public abstract int sumUp (int[] arr);

Which of the following is required in a non-abstract child?

a)public abstract int sumUp (int[] arr) { . . . }
b)public int sumUp (int[] arr) { . . . }
c)public double sumUp (int[] arr) { . . . }
d)public int sumUp (long[] arr) { . . . }

7.Which statement is true for any concrete class implementing the java.lang.Runnable interface?

a)The class must contain an empty protected void method named run().
b)The class must contain a public void method named runnable().
c)The class definition must include the words implements Threads and contain a method called run().
d) The mandatory method must be public, with a return type of void, must be called run(), and cannot take any arguments.

8.Which is a valid declaration within an interface?

a)protected short stop = 23;
b)final void madness(short stop);
c)public Boolean madness(long bow);
d)static char madness(double duty);

9.Can an abstract class define both abstract methods and non-abstract methods ?

a)No-it must have all one or the other.
b) No-it must have all abstract methods.
c)Yes-but the child classes do not inherit the abstract methods.
d)Yes-the child classes inherit both.

10.Which one of the following statements is true ?
a) An abstract class can be instantiated.
b)An abstract class is implicitly final.
c)An abstract class can declare non-abstract methods.
d)An abstract class can not extend a concrete class.

11.What is an abstract method?
a)An abstract method is any method in an abstract class.
b)An abstract method is a method which cannot be inherited.
c)An abstract method is one without a body that is declared with the reserved word abstract.
D)An abstract method is a method in the child class that overrides a parent method.

12.What is an abstract class?
a)An abstract class is one without any child classes.
b)An abstract class is any parent class with more than one child class.
c)An abstract class is a class which cannot be instantiated.
d)An abstract class is another name for "base class."

13.Which declaration in the below code represents a valid declaration within the interface ?

```
1. public interface TestInterface {
2.     volatile long value=98L;
3.     transient long amount=67L;
4.     Long calculate(long input);
5.     static Integer getValue();
6. }
```

a)Declaration at line 2.
b)Declaration at line 3.
c)Declaration at line 4.
d)Declaration at line 5.

14.Given:

```
1. public interface Constants {
2.     static final int SEASON_SUMMER=1;
3.     final int SEASON_SPRING=2;
4.     static int SEASON_AUTUMN=3;
5.     public static const int SEASON_WINTER=4;
6. }
```

What is the expected behaviour on compiling the above code?
a)Compilation error occurs at line 2.
b)Compilation error occurs at line 3.
c)Compilation error occurs at line 4.
d)Compilation error occurs at line 5.

15.Given the following,

```
1. abstract class A {
2.     abstract short m1() ;
3.     short m2() { return (short) 420; }
4. }
5.
6. abstract class B extends A {
7.     // missing code ?
8.     short m1() { return (short) 42; }
9. }
```

Which of the following statements is true?
a) Class B must either make an abstract declaration of method m2() or implement method m2() to allow the code to compile.
b) It is legal, but not required, for class B to either make an abstract declaration of method m2() or implement method m2() for the code to compile.
c) As long as line 8 exists, class A must declare method m1() in some way.
d) If class A was not abstract and method m1() on line 2 was implemented, the code would not compile.

16.Given the following,

```
1. interface Base {
2.     boolean m1 ();
3.     byte m2(short s);
4. }
```

Which of the following code fragment will compile?

a) interface Base2 implements Base {}

b) abstract class Class2 extends Base {
public boolean m1() { return true; } }

c) abstract class Class2 implements Base {
public boolean m1() { return (7 > 4); } }

d) class Class2 implements Base {
boolean m1() { return false; }
byte m2(short s) { return 42; } }

17.Given:

```
1. interface I1 {
2.    int process();
3. }
4. class C implements I1 {
5.    int process() {
6.       System.out.println("process of C invoked");
7.       return 1;
8.    }
9.    void display() {
10.       System.out.println("display of C invoked");
11.   }
12.}
13.public class TestC {
14.   public static void main(String... args) {
15.       C c = new C();
16.       c.process();
17.   }
18.}
```

What is the expected behaviour?

a)Compilation error at line 5.

b)Compilation error at line 9.

c) Runtime error occurs.

d)Prints "process of C invoked".

18.Given:

```
1. public interface Alpha {
2. String MESSAGE = "Welcome";
3. public void display();
4. }
```

To create an interface called Beta that has Alpha as its parent,
which interface declaration is correct?

a)public interface Beta extends Alpha { }

b)public interface Beta implements Alpha {}

c)public interface Beta instanceOf Alpha {}

d)public interface Beta parent Alpha { }

19.Given:

```
1. abstract class AbstractClass {
2.    void setup() { }
3.    abstract int execute();
4. }
5. class EC extends AbstractClass {
6.   int execute() {
7.       System.out.println("execute of EC invoked");
8.       return 0;
9.    }
10.}
11.public class TestEC {
12.   public static void main(String... args) {
13.       EC ec = new EC();
14.       ec.setup();
```

```
15.       ec.execute();
16.    }
17.}
```
What is the expected behaviour?
a)Compilation error at line 2.
b)Compilation error at line 14.
c)Runtime error occurs.
d)Prints "execute of EC invoked".

20.Given the code below:

```
interface MyInterface {
   void doSomething ( ) ;
}
class MyClass implements MyInterface {
   // xx
}
```

Choose the valid option that can be substituted in place of xx in the MyClass class .
a) public native void doSomething ( ) ;
b) void doSomething ( ) { /* valid code fragments */ }
c)private void doSomething ( ) { /* valid code fragments */ }
d)protected void doSomething ( ) { /* valid code fragments */ }

21.interface I1 {

```
   void draw();
}
class C implements I1 {
   xxxxxx
}
```

Which of the following when inserted at xxxxxx is a legal definition and implementation ?
a) void draw() { }
b) public void draw() { }
c) protected void draw() { }
d) abstract void draw() { }

22.Given the following,

```
1. interface Count {
2.    short counter = 0;
3.    void countUp();
4. }
5. public class TestCount implements Count {
6.
7.    public static void main(String [] args) {
8.       TestCount t = new TestCount();
9.        t.countUp();
10.   }
11.   public void countUp() {
12.      for (int x = 6; x>counter; x--, ++counter) {
13.         System.out.print(" " + counter);
14.    }
15.   }
16. }
```

What is the result?
a) 1 2 3
b) 0 1 2 3
c) 1 2 3 4
d) Compilation fails

23.Given the following,

```
1. interface DoMath {
2. double getArea(int rad); }
3.
4. interface MathPlus {
5. double getVol(int b, int h); }
6.
```

7.
8.
Which code fragment inserted at lines 7 and 8 will compile?
a) class AllMath extends DoMath {
double getArea(int r); }
b) interface AllMath implements MathPlus {
double getVol(int x, int y); }
c) interface AllMath extends DoMath {
float getAvg(int h, int l); }
d) class AllMath implements MathPlus {
double getArea(int rad); }

24.interface I1 {}

```
interface I2 {}
class Base implements I1 {}
class Sub extends Base implements I2 {}
class Red {
   public static void main(String args[]) {
      Sub s1 = new Sub();I2 i2 = s1;     // 1
      I1 i1 = s1;                        // 2
      Base base = s1;                    // 3
Sub s2 = (Sub)base;                 // 4

   }
}
```

A compile-time error is generated at which line?
a) 2
b) 3
c) 4
d) No error will be generated.

25.Given:

```
1. public interface IDrawable {
2.    static final int SHAPE_CIRCLE=1;
3.    final int SHAPE_SQUARE=2;
4.    static int SHAPE_RECTANGLE=3;
5.    public static const int SHAPE_TRIANGLE=4;
6. }
```

What is the expected behaviour on compiling the above code?
a) Compilation error occurs at line 2.
b) Compilation error occurs at line 3.
c) Compilation error occurs at line 4.
d) Compilation error occurs at line 5.

26.Given:

```
1. abstract class MyClass {
2.    void init() { }
3.    abstract int calculate();
4. }
5. class MyImpl extends MyClass {
6.   int calculate() {
7.       System.out.println("Invoking calculate...");
8.       return 1;
9.    }
10.}
11.public class TestMyImpl {
12.   public static void main(String[] args) {
13.      MyImpl mi = new MyImpl();
14.      mi.init();
15.      mi.calculate();
16.   }
17.}
```

What is the expected behaviour?
a) Prints "Invoking calculate...".
b) Runtime error occurs.
c) Compilation error at line 2.
d) Compilation error at line 14.

Topic: Access Modifiers

27.Which one of the following modifiers can be applied to a method?
a) transient
b) native
c) volatile
d) friend

28.Given a method in a class, what access modifier do you use to restrict access to that method to only the other members of the same class?
a) static
b) private
c) protected
d) volatile

29.Which of the following modifiers can be applied to a constructor?
a) protected
b) static
c) synchronized
d) transient

30.Which of the following member level (i.e. nonlocal) variable declarations will not compile?
a) transient int b = 3;
b) public static final int c;
c) volatile int d;
d) private synchronized int e;

31.Which of the following modifiers can be applied to the declaration of a field?
a) abstract
b) volatile
c) native
d) synchronized

32.Which statement is true about the use of modifiers?
a) If no accessibility modifier (public, protected, and private) is specified for a member declaration, the member is only accessible for classes in the same package and subclasses of its class in any package.
b) You cannot specify accessibility of local variables. They are only accessible within the block in which they are declared.
c) Subclasses of a class must reside in the same package as the class they extend.
d) Local variables can be declared static.

33.What is the most restrictive access modifier that will allow members of one class to have access to members of another class in the same package?
a) abstract
b) protected
c) synchronized
d) default access

34.Which statement is true?
a) Constructors can be declared abstract.
b) A subclass of a class with an abstract method must provide an implementation for the abstract method.
c) Transient fields will be saved during serialization.
d) Instance methods of a class can access its static members implicitly.

35.Which statement is true?

a) A static method can call other non-static methods in the same class by using the this keyword.
b) A class may contain both static and non-static variables and both static and non-static methods.
c) Each object of a class has its own instance of each static variable.
d) Instance methods may access local variables of static methods.

36.Which of the following modifiers cannot be applied to a top level class?
a) public
b) private
c) abstract
d) final

37.Which of the following modifiers cannot be applied to a method?
a) final
b) synchronized
c) transient
d) native

38.Which of the following modifiers can be applied to a constructor?
a) private
b) abstract final volatile

39.Which statement is true about modifiers?
a) Fields can be declared native.
b) Non-abstract methods can be declared in abstract classes.
c) Classes can be declared native.
d) Abstract classes can be declared final.

40.Before which of the following can the keyword "synchronized" be placed, without causing a compile error.
a) class variables
b) instance methods
c) instance variables
d) a class

41.A protected method can be overridden by
a) A private method
b) A method without any access specifiers (i.e. default)
c) A protected method
d) All of the above

42.Which statement is true about accessibility of members?
a) Private members are always accessible from within the same package.
b) Private members can only be accessed by code from within the class of the member.
c) A member with default accessibility can be accessed by any subclass of the class in which it is defined.
d) Package/default accessibility for a member can be declared using the keyword default.

43.Which of the following modifiers cannot be applied to the declaration of a field?
a) final
b) transient
c) volatile
d) synchronized

44.How restrictive is the default accessibility compared to public, protected, and private accessibility?
a) Less restrictive than public.
b) More restrictive than public, but less restrictive than protected.
c)More restrictive than protected, but less restrictive than private.
d)More restrictive than private.

45.What is printed out following the execution of the code below ?

```
1. class Test {
2.    static String s;
3.    public static void main(String []args) {
4.       int x = 4;
5.       if (x < 4)
6.          System.out.println("Val = " + x);
7.       else
8.          System.out.println(s);
9.    }
10. }
```

a) Nothing. The code fails to compile because the String s isn't declared correctly.
b) The text "Val = null" is displayed.
c) The text "null" is displayed.
d) Runtime error due to NullPointer exception.

46.Analyse the following 2 classes and select the correct statement.

```
class A {
   private int x = 0;
     static int y = 1;
   protected int q = 2;
}
class B extends A {
   void method() {
      System.out.println(x);
      System.out.println(y);
      System.out.println(q);
   }
}
```

a) The code fails to compile because the variable x is not available to class B.
b) The code compiles correctly, and the following is displayed:012
c) The code fails to compile because you can't subclass a class with protected variables.
d) The code fails to compile because you can't subclass a class with static variables.

47.Given the following class, which of these is valid way of referring to the class from outside of the package com.test?

```
package com.test;
public class MyClass {
   // ...
}
```

a) By simply referring to the class as MyClass.
b) By simply referring to the class as test.MyClass.
c) By simply referring to the class as com.test.MyClass.
d) By importing with com.* and referring to the class as test.MyClass.

48.Given the following member declarations, which statement is true?

```
int a;                    // (1)
static int a;             // (2)
int f() { return a; }     // (3)
static int f() { return a; }  // (4)
```

Declarations (1) and (3) cannot occur in the same class definition.
Declarations (2) and (4) cannot occur in the same class definition.
Declarations (1) and (4) cannot occur in the same class definition.
Declarations (2) and (3) cannot occur in the same class definition.

49.// Class A is declared in a file named A.java.

```
package com.test.work;
public class A {
   public void m1() {System.out.print("A.m1, ");}
```

```
   void m2() {System.out.print("A.m2, ");}
}
// Class D is declared in a file named D.java.
package com.test.work.other;
import com.test.work.A;
public class D {
   public static void main(String[] args) {
      A a = new A();
      a.m1(); // 1
      a.m2(); // 2
}}
```

What is the result of attempting to compile and run the program?

a) Prints: A.m1, A.m2,
b) Runtime error occurs.
c) Compile-time error at 1.
d) Compile-time error at 2.

```
50.public class MyClass {
   int calculate(int i, int j)
  {
      return 2+i*j;
   }
public static void main(String [] args) {

      int k = MyClass.calculate(5,10);
      System.out.println(k);
   }
}
```

What is the result?

a) 70
b) 52
c) Compilation error
d) An exception is thrown at runtime

```
51.Given the following,
1. package testpkg.p1;
2. public class ParentUtil {
3.     public int x = 420;
4.     protected int doStuff() { return x; }
5. }
1. package testpkg.p2;
2. import testpkg.p1.ParentUtil;
3. public class ChildUtil extends ParentUtil {
4.     public static void main(String [] args) {
5.         new ChildUtil().callStuff();
6.     }
7.     void callStuff() {
8.         System.out.print("this " + this.doStuff() );
9.         ParentUtil p = new ParentUtil();
10.        System.out.print(" parent " + p.doStuff() );
11.    }
12. }
```

Which statement is true?

a) The code compiles and runs, with output this 420 parent 420.
b) If line 8 is removed, the code will compile and run.
c) If line 10 is removed, the code will compile and run.
d) Both lines 8 and 10 must be removed for the code to compile.

52.What would be the result of attempting to compile and run the following program?

```
class MyClass {
   static MyClass ref;
   String[] arguments;
   public static void main(String[] args) {
      ref = new MyClass();
      ref.func(args);
   }
```

```
    public void func(String[] args) {
        ref.arguments = args;
    }
}
```
a) The program will fail to compile, since the static method main() cannot have a call to the non-static method func().
b) The program will fail to compile, since the non-static method func() cannot access the static variable ref.
c) The program will fail to compile, since the argument args passed to the static method main() cannot be passed on to the non-static method func().
d) The program will compile and run successfully.

```
53.package com.test.work;
public class A {
    public void m1() {System.out.print("A.m1, ");}
    protected void m2() {System.out.print("A.m2, ");}
    private void m3() {System.out.print("A.m3, ");}
    void m4() {System.out.print("A.m4, ");}
}
class B {
    public static void main(String[] args) {
        A a = new A();
        a.m1(); // 1
        a.m2(); // 2
        a.m3(); // 3
        a.m4(); // 4
}}
```
Assume that the code appears in a single file named A.java.
What is the result of attempting to compile and run the program?

a) Prints: A.m1, A.m2, A.m3, A.m4,
b) Compile-time error at 2.
c) Compile-time error at 3.
d) Compile-time error at 4.

54.Given the following source code, which comment line can be uncommented without introducing errors?

```
abstract class MyClass {
    abstract void f();
    final void g() {}
//  final void h() {}                           // (1)
    protected static int i;
    private int j;
}
final class MyOtherClass extends MyClass {
//  MyOtherClass(int n) { m = n; }              // (2)
    public static void main(String[] args) {
        MyClass mc = new MyOtherClass();
    }
    void f() {}
    void h() {}
//  void k() { i++; }                           // (3)
//  void l() { j++; }                           // (4)
    int m;
}
```

a) final void h() {} // (1)
b) MyOtherClass(int n) { m = n; } // (2)
c) void k() { i++; } // (3)
d) void l() { j++; } // (4)

55.Given the following code, which statement can be placed at the indicated position without causing compilation errors?

```
public class ThisUsage {
    int planets;
    static int suns;
```

```
  public void gaze() {
      int i;
      // ... insert statements here ...
    }
}
```
a) this = new ThisUsage();
b) this.i = 4;
c) this.planets = i;
d) i = this.planets;

56.Given the following:

```
class Gamma {
   public int display() {
      return 3;
   }
}
public class Delta extends Gamma {
   @Override
   protected int display() {
      return 4;
   }
}
```
What will be the result of compiling the above code ?
a) The code compiles correctly without any errors.
b) The code fails to compile, because you can't override a method to be more private than its parent.
c) The code fails to compile, because @Override cannot be mentioned above a protected method.
d) The code fails to compile, because public methods cannot be overriden.

57.Given the following:

```
class TestAccess {
   public int calculate() {
      int a=5,b=6;
      return a+b;
   }
}
public class MyChild extends TestAccess {
   @Override
   int calculate() {
      return 100;
   }
}
```
What will be the result of compiling the above code ?
a) The code fails to compile, because you can't override a method to be more private than its parent.
b) The code fails to compile, because @Override cannot be mentioned above a default method.
c) The code fails to compile, because public methods cannot be overriden.
d) The code compiles correctly without any errors.

Topic: Arrays

58.What is the value of seasons.length for the following array?

```
String[] seasons = {"winter", "spring", "summer", "fall", };
```
undefined
a) 4
b) 5
c) 22

59.Which of the following will declare an array and initialize it ?

a) Array a = new Array(5);
b) int array[] = new int [5];
c) int a[] = new int(5);
d) int [5] array;

60.Which of the following is an illegal declaration of array ?
a) int [] myscore[];
b) char [] mychars;
c) Dog mydogs[7];
d) Dog mydogs[];

61.Which will legally declare, construct, and initialize an array?
a) int [] myList = {"5", "8", "2"};
b) int [3] myList = (5, 8, 2);
c) int myList[] [] = {5,8,2,0};
d) int [] myList = {5, 8, 2};

62.Which of these array declaration statements is not legal?
a) int[] i[] = { { 1, 2 }, { 1 }, {}, { 1, 2, 3 } };
b) int i[][] = new int[][] { {1, 2, 3}, {4, 5, 6} };
c) int i[4] = { 1, 2, 3, 4 };
d) int i[][] = { { 1, 2 }, new int[2] };

63.Which of the following is a legal declaration of a two-dimensional array of integers?
a) int[5][5]a = new int[][];
b) int a = new int[5,5];
c) int[]a[] = new int[5][];
d) int[][]a = new int[][5];

64.How would you declare and initialize the array to declare an array of fruits ?
a) String[] arrayOfFruits = {"apple", "mango", "orange"};
b) String[] arrayOfFruits= ("apple", "mango", "orange");
c) String[] arrayOfFruits= ["apple", "mango", "orange"];
d) String[] arrayOfFruits = new String{"apple, mango, orange"};

65.What type parameter must the following method be called with?
int myMethod (double[] ar)
{
. . . .
}
a) An empty double array.
b) A reference to an array that contains elements of type double.
c) A reference to an array that contains zero or more elements of type int.
d) An array of any length that contains double and must be named ar
.

66.After the declaration:
char[] c = new char[100];
What is the value of c[50]?
a) 49
b) 50
c) '\u0020'
d) '\u0000'

67.Which will legally declare, construct, and initialize an array?
a) int [] myList = {"9", "6", "3"};
b) int [3] myList = (9, 6, 3);
c) int myList[] [] = {9,6,3,0};
d) int [] myList = {9, 6, 3};

68.Given the following code snippet:
float average[] = new float[6];
Assuming the above declaration is a local variable in a method of a class, after the above statement is executed, which of the following statement is false ?
a) average.length is 6
b) average[0] is 0.0

c) average[5] is undefined
d) average[6] is undefined

Topic: Assignments, Expressions, Operators

69.Which one of the below expression is equivalent to 16>>2 ?
a) 16/4
b) 16/2
c) 16*2
d) 16/2^2

70.Which of the following is correct?
a) 8 >> 2 gives 2
b) 16 >>> 2 gives 2
c) 4 << 2 gives 2
d) 2 << 1 gives 2

71.Which of the following is correct?
128 >>> 1 gives
a) 32
b) 64
c) -64
d) -32

72.What is the value of -32 % 6 ?
a) 5
b) -5
c) 2
d) -2

73.Which one of the following is a short-circuit operator ?
a) |
b) &&
c) &
d) ^

74.Given the following code snippet:
double sum = 10.0, price=100;
sum += price>=100 ? price*1.1 : price;
What value is placed in sum? Choose the most appropriate answer.
a) 90
b) 100
c) 110
d) 120

75.If x, y, and z are all integers, which expression will produce a runtime error?
NOTE: The expressions are always evaluated with all the integers having a value of 1.
a) z = x/y--;
b) z = -x/x;
c) z = y/x--;
d) z = y%--x

76.Given a variable x of type int (which contains a positive value), which is the correct way of doubling the value of x, barring any wrapping of out-of-range intermediate values ?
a) x << 1;
b) x >> 1;
c) x >>> 1;
d) x << -1;

77.Suppose you have four int variables: x, y, z, and result.
Which expression sets the value of z to x if result has a value of 1, and the value of y to x otherwise?
a) x = (result == 1) ? z : y;

b) x = (result == 1) ? y : z;
c) x = (result == 1) : y ? z;
d) x = (result == 1) : z ? y;

78.Given a variable x of type int (which can contain a negative value), which of these expressions always gives a positive number irrespective of the value of x?
a) x << 1;
b) x >> 1;
c) x >>> 1;
d) x << 2;

79.Given:
int x = 7;
x <<= 2;
What best describes the second line of code?
a) It assigns the value of 2 to x, and shifts it to left by one place.
b) It assigns the value to x after shifting x to 2 places left.
c) It assigns the value to x after shifting 2 to x places left.
d) It is invalid because there is no such operator as <<=.

80.Given the variables defined below:
int one = 1;
int two = 2;
char initial = '2';
boolean flag = true;
Which one of the following is invalid?
a) if(one == two){}
b) switch(one){}
c) switch(flag){}
d) switch(initial){}

81.Identify the shift operator that returns -1 as the value of the variable in the following statement:
int a= -4 MISSING OPERATOR 2;
a) >>>
b) >>
c) <<<
d) <<

82.public class TestOperator {
public static void main(String[] args) {
byte x = 0x0F;
byte y = 0x08;
byte z = x & y; ⟶ logical operations returns int
System.out.println(z);
}
}
What is the result?
a) 8
b) 15
c) 23
d) Compilation error

83.public class TestExpression {
private static int value=0;
private static boolean method2(int k) {
value+=k;
return true;
}
public static void method1(int index) {
boolean b;
b = index >= 15 && method2(30);
b = index >= 15 & method2(15);
}
public static void main (String args[]) {

```
method1(0);
      System.out.println(value);
   }
}
```
What is the output?
a) 0
b) 15
c) 30
d) 45

```
84.public class TestCondition {
   public static void main (String... args) {
      int i=1;
      int j=2;
      int k=2;
      if ((i ^ j) && (j ^ k)) {
         System.out.println("true");
      }
      else {
         System.out.println("false");
      }
   }
}
```
What is the expected output ?
a) Prints true
b) Prints false
c) Compilation error occurs
d) Runtime error occurs

```
85.1. public class TestFloatDouble {
2.    public static void main(String[] args) {
3.       float f1 = 2.0f;
4.       double d1 = 4.0;
5.       double result = f1 * d1;
6.       System.out.println(result);
7.    }
8. }
```
What is the output ?
a) 8.0
b) Compilation error at Line 3
c) Compilation error at Line 4
d) Compilation error at Line 5

```
86.public class Test {
   public static void main(String[] args)
   {
      System.out.println( 6 ^ 4);
   }
}
```
What is the output?
a) 1296
b) 24
c) 2
d) Compilation error

87.What will happen if you try to compile and run the following code?
```
int a = 200;
byte b = a;
System.out.println ("The value of b is " + b );
```
a) It will compile and print The value of b is 200
b) It will compile but cause an error at runtime
c) Compile-time error
d) It will compile and print The value of b is -56

88..Given:
```
public class TestOperator {
   int x=15;
```

```
    public void method(int x) {
      x+=x;
      System.out.println(x);
    }
    public static void main(String... args) {
      TestOperator t = new TestOperator();
      t.method(10);
    }
}
```

What is the output of the above code?

a) 10
b) 20
c) 25
d) 30

89.1. public class TestLiterals {
2. public static void main(String[] args) {
3. float f1 = 2.0;
4. float f2 = 4.0f;
5. float result = f1 * f2;
6. System.out.println(result);
7. }
8. }

What is the output?

a) A value which is exactly 8.0
b) Compilation error at Line 3
c)Compilation error at Line 4
d) Compilation error at Line 5

```
90.public class TestChar {
   static double a; static float b; static int c; static char d;
   public static void main(String[] args) {
      a = b = c = d = 'a';
  System.out.println(a+b+c+d == 4 * 'a');
   }
}
```

What is the output?

a) true
b) false
c) Compile-time error
d) Run-time error

```
91.public class TestOperator {
   public static void main (String[] args) {
      int x = 2, y = 4;
      System.out.printf("%d,%d", (x ^ y), (y ^ x));
   }
}
```

What is the expected output ?

a) 8,8
b) 6,8
c) 6,6
d) 8,6

```
92.public class Test {
   private static int value =0;
   private static boolean method2(int k) {
      value+=k;
      return true;
   }
   public static void method1(int index) {
      boolean b;
      b = index < 10 | method2(10);
      b = index < 10 || method2(20);
   }
   public static void main ( String args[]) {
```

```
 method1(0);
      System.out.println(value);
   }
}
```
What is the output?
a) 0
b) 10
c) 20
d) 30

93.Given:
```
1.  public class B {
2.     Integer x;
3.     int sum;
4.     public B(int y) {
5.        sum=x+y;
6.        System.out.println(sum);
7.     }
8.     public static void main(String[] args) {
9.        new B(new Integer(23));
10.    }
11. }
```
not initialized

What is the expected output ?
a) The value "23" is printed at the command line.
b) Compilation fails because of an error in line 9.
c) A NullPointerException occurs at runtime.
d) A NumberFormatException occurs at runtime.

94.
```
public class TestOperator {
   public static void main(String[] args) {
      int x = 0x04;
      int y = 0x20;
      int z = x && y;
      System.out.println(z);
   }
}
```
What is the result?
a) 0
b) 24
c) 36
d) Compilation error

95.
```
public class TestOperation {
   public static void main (String... args) {
      int a = 4;
      int b = 3;
      a += (--b + a * 3);
      System.out.printf("a=%d,b=%d",a,b);
   }
}
```
What is the value of a after this code is run?
a) a=19,b=3
b) a=18,b=2
c) a=19,b=1
d) a=18,b=3

96.
```
public class TestIncrement {
   public static void main(String[] args)
   {
      int index=10;
      int result=0;
      if (index++ > 10)
      {
         result = index;
      }
      System.out.println("index=" + index);
      System.out.println("result=" + result);
```

}
What is the output?
a) index=10
result=0
b) index=11
result=0
c) index=10
result=10
d) index=11
result=11

97.below:
if(val > 4)
{ System.out.println("Test A");
}
else if(val > 9)
{ System.out.println("Test B");
}
else System.out.println("Test C");
Which values of val will result in "Test C" NOT being printed?
a) val < 0
b) val = 0
c) 0 < val < 4
d) 4 < val < 9

98.public class TestIncrement {
public static void main(String[] args)
{
int index=10;
int result=0;
if (++index > 10)
{
result = index;
}
System.out.println("index=" + index);
System.out.println("result=" + result);
}
}
What is the output?
a) index=10
result=0
b) index=11
result=0
c) index=11
result=10
d) index=11
result=11

99.public class Test{
public static void main(String[] args) {
System.out.print((-1 & 0x1f) + "," + (8 << -1));
}
}
What is the result of attempting to compile and run the program?
a) 0,0
b) 0x1f,8
c) 31,16
d) 31,0

100.What is the value of x after this code is run?
int x = 3 ;
int y = 2 ;
x += (y + x * 2);
a) 9
b) 10
c) 11

Topic: Class / Method Concepts

101.Which of the following is illegal for a method declaration?
a) protected abstract void m1();
b) static final void m2(){}
c) transient private native void m3() {}
d) synchronized public final void m4() {}

102.Which one of these statements is true about constructors?
a) Constructors must not have arguments if the superclass
b)constructor does not have arguments.
c) Constructors are inherited.
d)Constructors cannot be overloaded.
e)The first statement of every constructor is a legal call to the super() or this()method.

103.Here is a method definition:
int compute(int a, double y){ . . . .}
Which of the following has a different signature?
a) int compute(int sum, double value){ . . . .}
b) double compute(int a, double y){ . . . .}
c) double compute(int sum, double y){ . . . .}
d) int compute(int a, int y){ . . . .}

104.Which one of the following is not a legal method declaration?
a) static final void m2(){}
b) transient private native void m3() {}
c) synchronized public final void m4() {}
d) private native void m5();

105.In a constructor, where can you place a call to the super class constructor?
a) The first statement in the constructor
b) The last statement in the constructor
c) You can't call super in a constructor
d) Any where

106.Which one of the below statements is true?
a) When a class has defined constructors with parameters, the compiler does not create a default no-args constructor.
b) When a constructor is provided in a class, a corresponding destructor should also be provided.
c)The compiler always creates the default no-args constructor for every class.
d) The no-args constructor can invoke only the no-args constructor of the superclass. It cannot invoke any other constructor of the superclass.

107.Which of the following techniques can be used to prevent the instantiation of a class by any code outside of the class?
a) Do not declare any constructors.
b) Do not use a return statement in the constructor.
c) Declare all constructors using the keyword void to indicate that nothing is returned.
d) Declare all constructors using the private access modifier.

108.Which one of the following is legal declaration for nonnested classes and interfaces?
a) final abstract class Test {}
b) public static interface Test {}
c) final public class Test {}
d) protected interface Test {}

109.What is a method's signature?
a)The signature of a method is the name of the method and the type of its return value.

b) The signature of a method is the name of the method and the names of its parameters.
c) The signature of a method is the name of the method and the data types of its parameters.
d) The signature of a method is the name of the method, its parameter list, and its return type.

110.public class MethodTest {
  public void methodSam(int a, float b, byte c) {}
}
Which of the following is considered as overloaded methodSam ?
a) private int methodSam(int a, float b, byte c) {}
b) private int methodSam(float a, int b, byte c) {return b;}
c) private float methodSam(int a, float b, byte c) {return b;}
d) public void methodSam(int x, float y, byte z) {}

111.Which one of the following is not a legal declaration for top level classes or interfaces ?
a) public abstract interface Test {}
b) final abstract class Test {}
c) abstract interface Test {}
d) public abstract class Test {}

112.A constructor is used to
a) Free memory
b) Initialize a newly created object.
c) Import packages
d) Clean up the object

113.public class Constructor {
  public Constructor (int x, int y, int z)
  {}
}
Which of the following is considered as overloaded constructor?
a) Constructor() {}
b) protected int Constructor(){}
c) private Object Constructor() {}
d) public void Constructor(int x, int y, byte z){}

114.If MyProg.java were compiled as an application and then run from the command line as
  java MyProg I like myprogram
What would be the value of args[1] inside the main( ) method?
a) MyProg
b) I
c) like
d) 4

115.Given the following,
1. long test(int x, float y) {
2.
3. }
Which one of the following line inserted at line 2 would not compile?
a) return (long) y;
b) return (int) 3.14d;
c) return (y / x);
d)return x / 7;

116.Which one of the following is generally a valid definition of an application's main() method ?
a) public static void main();
b) public static void main(String args);
c) public static void main(String[] args);
d) public static void main(Graphics g);

117.Consider the following code segment and select the correct statement:

```
1. class Test {
2.     final int tst;
3.     final int w = 0;
4.
5.     Test() {
6.         tst = 1;
7.     }
8.
9.     Test(int x) {
10.        tst = x;
11.    }
12. }
```

a) The code fails to compile because a class cannot have more than 1 constructor.
b) The code fails to compile because the class Test has no constructors.
c) The code compiles correctly without any warnings or errors.
d) The code fails to compile because an attempt is made to initialise a final variable at lines 6 and 10.

118.Given the following,

```
1. class A {
2.     public int foo;
3. }
4. public class B extends A {
5.     private int bar;
6.     public void setBar(int b) {
7.         bar = b;
8.     }
9. }
```

Which is true about the classes described above?
a)Class A is tightly encapsulated.
b) Class B is tightly encapsulated.
c) Classes A and B are both tightly encapsulated.
d) Neither class A nor class B is tightly encapsulated.

119.Given the following,

```
1. public class Barbell {
2.     public int getWeight() {
3.         return weight;
4.     }
5.     public void setWeight(int w) {
6.         weight = w;
7.     }
8.     public int weight;
9. }
```

Which is true about the class described above?
a) Class Barbell is tightly encapsulated.
b) Line 2 is in conflict with encapsulation.
c) Line 5 is in conflict with encapsulation.
d) Line 8 is in conflict with encapsulation.

120.Examine the following code:

```
String str = "Hot Java";
boolean bValue = str instanceof String;
```

What value is placed in bValue?
a) true
b) false
c)"Hot Java"
d) null

121.

```
class A {
   A() { }
   void display() {
      System.out.println("display of A called");
```

```
   }
}
class B {
   B() { }
   void display() {
      System.out.println("display of B called");
   }
}
public class C extends A, B {
   public static void main(String[] args) {
      C c = new C();
      c.display();
   }
}
```

What is the output ?

a) Compilation error is generated

b) display of A called
display of B called

c) display of B called
display of A called

d)order of output is not predictable and can come in any order

122.Given the following,

```
1. import java.util.*;
2. public class NewTreeSet2 extends NewTreeSet {
3.    public static void main(String [] args) {
4.       NewTreeSet2 t = new NewTreeSet2();
5.       t.count();
6.    }
7. }
8. protected class NewTreeSet {
9.    void count() {
10.      for (int x = 0; x < 7; x++,x++ ) {
11.         System.out.print(" " + x);
12.      }
13.   }
14. }
```

What is the result?

a) 0 2 4

b) 0 2 4 6

c) Compilation fails at line 4

d) Compilation fails at line 8

123.Given:

```
1. class Fruit {
2.    private String name;
3.    public Fruit(String name) { this.name = name; }
4.    public String getName() { return name; }
5. }
6. public class MyFruit extends Fruit {
7.    public void displayFruit() { }
9. }
```

Which of the following statement is true?

a) The code will compile if public MyFruit() { Fruit(); } is added to the MyFruit class.

b) The code will compile if public Fruit() { MyFruit(); } is added to the Fruit class.

c) The code will compile if public Fruit() { this("apple"); } is added to the Fruit class.

d) The code will compile if public Fruit() { Fruit("apple"); } is added to the Fruit class.

124.Given the following,

```
1.
2. public class NewTreeSet extends java.util.TreeSet{
3.    public static void main(String [] args) {
4.       java.util.TreeSet t = new java.util.TreeSet();
```

```
5.       t.clear();
6.    }
7.    public void clear() {
8.       TreeMap m = new TreeMap();
9.       m.clear();
10.   }
11. }
```

Which statement added at line 1, allow the code to compile?

a) No statement is required
b) import java.util.*;
c) import.java.util.Tree*;
d) import java.util.*Map;

125.Given the following,

```
public class TestConstructor extends Object
{
   TestConstructor()
   {
      super();
      this(10);
   }
   TestConstructor(int i)
   {
      this(i, 11);
   }
   TestConstructor(int i, int j)
   {
      System.out.println("i=" + i + " j=" + j);
   }
   public static void main(String[] args)
   {
      TestConstructor tc = new TestConstructor();
   }
}
```

What will be the output?

a) No output
b) i=10 j=11
c) Compilation error
d) Runtime error

126.Given the following,

```
1. import java.util.*;
2. class Ro {
3.    Object[] testObject() {
4.
5.
6.    }
7. }
```

Which one of the following code fragments inserted at lines 4, 5 will not compile?

a) return null;
b) Object t = new Object();
return t;
c) Object[] t = new Object[10];
return t;
d) Object[] t = new Integer[10];
return t;

127.Given the following,

```
1. public class ThreeConst {
2.    public static void main(String [] args) {
3.       new ThreeConst();
4.    }
5.    public void ThreeConst(int x) {
6.       System.out.print(" " + (x * 2));
7.    }
```

```
8.    public void ThreeConst(long x) {
9.       System.out.print(" " + x);
10.   }
11.
12.    public void ThreeConst() {
13.       System.out.print("no-arg ");
14.    }
15. }
```

What is the result?
a) 8 4 no-arg
b) no-arg 8 4
c) Compilation fails.
d) No output is produced.

128.Given the following,

```
1. class Dog {
2.    Dog(String name) { }
3. }
```

If class Beagle extends Dog, and class Beagle has only one constructor, which of the following could be the legal constructor for class Beagle?
a) Beagle() { }
b) Beagle() { super(); }
c) Beagle() { super("fido"); }
d) No constructor, allow the default constructor to get generated automatically.

129.Given the following,

```
1. public class CheckType {
2.    int check() {
3.
4.       return y;
5.    }
6.    public static void main(String [] args) {
7.       CheckType c = new CheckType();
8.       int x = c.check();
9.    }
10.}
```

Which line of code, inserted independently at line 3, will not compile?
a) short y = 7;
b) int y = (int) 7.2d;
c) Long y = 7;
d) int y = 0xface;

130.Given the following,

```
class TestFooBar {
public static Foo f = new Foo();
public static Foo f2;
public static Bar b = new Bar();
5.
public static void main(String [] args) {
for (int x=0; x<4; x++) {
f2 = getFoo(x);
f2.react();
}
}
static Foo getFoo(int y) {
if ( 0 == y % 2 ) {
return f;
} else {
return b;
}
}
}
20.
21. class Bar extends Foo {
```

```
22.    void react() { System.out.print("Bar "); }
23. }
24.
25. class Foo {
26.    void react() { System.out.print("Foo "); }
27. }
```

What is the result?

a) Bar Bar Bar Bar

b) Foo Bar Foo Bar

c) Foo Foo Foo Foo

d) Compilation fails.

131.Consider the following piece of code:

```
class A {
   int x = 0;
   A(int w) {
      x = w;
   }
}
class B extends A {
   int x = 0;
   B(int w) {
      x = w + 1;
   }
}
```

a) The code compiles correctly.

b) The code fails to compile, because both class A and B do not have valid constructors.

c) The code fails to compile because there is no default no-args constructor for class A.

d) The code fails to compile because there is no default no-args constructor for class B.

132.Given the following,

```
1. class Base {
2.    Base() {
3.       System.out.println("Base constructor invoked...");
4.    }
5. }
6.
7. public class Derived extends Base {
8.    Derived() {
9.       System.out.println("Derived constructor invoked...");
10.   }
11.
12.   public static void main (String[] args) {
13.      Base b = new Derived();
14.   }
15.}
```

What is the output ?

a) Base constructor invoked...
Derived constructor invoked...

b) Base constructor invoked...
c) Derived constructor invoked...

d) Derived constructor invoked...
Base constructor invoked...

133.Given the following,

```
1. public class ThreeConst {
2.    public static void main(String [] args) {
3.       new ThreeConst(4L);
4.    }
5.    public ThreeConst(int x) {
6.       this();
7.       System.out.print(" " + (x * 2));
8.    }
```

```
9.    public ThreeConst(long x) {
10.      this((int) x);
11.      System.out.print(" " + x);
12.   }
13.
14.   public ThreeConst() {
15.       System.out.print("no-arg ");
16.   }
17. }
```

What is the result?

a) 4 8
b) 8 4 no-arg
c) no-arg 8 4
d) Compilation fails.

134.Given the following,

```
1.
2. public class MyHashSet extends java.util.HashSet{
3.    public static void main(String [] args) {
4.       java.util.HashSet hs = new java.util.HashSet();
5.       hs.clear();
6.    }
7.    public void hmClear() {
8.       HashMap hm = new HashMap();
9.       hm.clear();
10.   }
11. }
```

Which statement added at line 1, allow the code to compile?

a) import java.util.*;
b) import java.util.*Map;
c) import java.util.Hash*;
d) No statement is required

Topic: Exceptions

135.Which statement is TRUE about catch{} blocks?

a) There can only be one catch{} block in a try/catch structure.
b) The catch{} block for a child exception class must PRECEDE that of a parent exception class.
c) The catch{} block for a child exception class must FOLLOW that of a parent exception class.
d) A catch{} block need not be present even if there is no finally{} block.

136.Both class Error and class Exception are children of this parent:

a) Throwable
b) Catchable
c) Runnable
d) Problem

137.What type of exception is thrown by parseInt() if it gets illegal data?

a) ArithmeticException
b) RunTimeException
c) NumberFormatException
d) NumberError

138.Which of the following lists exception types from MOST specific to LEAST specific?

a) Error, Exception
b) Exception, RunTimeException
c) Throwable, RunTimeException
d) ArithmeticException, RunTimeException

139.Which of these statement is true ?

a) finally block gets executed only when there are exceptions.

b) Finally gets always executed irrespective of the flow in try catch block.
c) finally block can be present only when a catch block is present.
d) finally block gets executed only when there are no exceptions.

140.On occurrence of which of the following is it possible for a program to recover?
a) Errors
b) Exceptions
c) Both errors and exceptions
d) Neither

141.Which statement is true?
a) If an exception is uncaught in a method, the method will terminate and normal execution will resume.
b) An overriding method must declare that it throws the same exception classes as the method it overrides.
c) The main() method of a program cannot declare that it throws checked exceptions.
d) A method declaring that it throws a certain exception class may throw instances of any subclass of that exception class.

142.class A {A() throws Exception {}} // 1
class B extends A {B() throws Exception {}} // 2
class C extends A {C() {}} // 3
Which one of the following statements is true?
a) Compile-time error at 1.
b) Compile-time error at 2.
c) Compile-time error at 3.
d) No compile-time errors.

143.When is a finally{} block executed?
a) Only when an unhandled exception is thrown in a try{} block.
b) Only when any exception is thrown in a try{} block.
c) Always after execution has left a try catch{} block, no matter for what reason
d) Always just as a method is about to finish.

144.Which statement is TRUE about the try{} block?
a) It is mandatory for statements in a try{} block to throw at least one exception type.
b) The statements in a try{} block can only throw one exception type and not several types.
c) The try{} block can contain loops or branches.
d) The try{} block can appear after the catch{} blocks.

145.class A {
```
   public static void main (String[] args) {
      Object error = new Error();
      Object runtimeException = new RuntimeException();
      System.out.print((error instanceof Exception) + ",");
      System.out.print(runtimeException instanceof Exception);
}}
```
What is the result of attempting to compile and run the program?
a) Prints: false,false
b) Prints: false,true
c) Prints: true,false
d) Prints: true,true

146.What is the result of compiling and executing the below code with the mentioned arguments ?
java TestInvocation Welcome Year 2009
```
public class TestInvocation
{
   public static void main(String... args)
   {
      String arg1 = args[1];
```

```
  String arg2 = args[2];
      String arg3 = args[3];
   }
}
```
a) Compilation succeeds
b) Throws exception at runtime
c) Compilation fails
d) None of the above.

147.Given the following,
```
1. public class MyProgram {
2.    public static void main(String args[]){
3.       try {
4.          System.out.print("Hello world ");
5.       }
6.       finally {
7.          System.out.println("Finally executing ");
8.       }
9.    }
10. }
```
What is the result?
a) Nothing. The program will not compile because no exceptions are specified.
b) Nothing. The program will not compile because no catch clauses are specified.
c) Hello world.
d) Hello world Finally executing

148.What is the result of compiling and executing the below code ?
```
public class TryTest {
   public static void main(String[] args)
   {
      try
      {
         return;
      }
      finally
      {
         System.out.println("Finally");
      }
   }
}
```
a) Outputs nothing
b) Finally
c) Compilation Error
d) Runtime Error

149.
```
class A {
   public static void main (String[] args) {
      Error error = new Error();
      Exception exception = new Exception();
      System.out.print((exception instanceof Throwable) + ",");
      System.out.print(error instanceof Throwable);
}}
```
What is the result of attempting to compile and run the program?
a) Prints: false,false
b) Prints: false,true
c) Prints: true,false
d) Prints: true,true

150.
```
public class MyClass {
   public static void main(String[] args) {
      RuntimeException re = null;
      throw re;
   }
}
```

What will be the result of attempting to compile and run the above program?
a) The code will fail to compile, since the main() method does not declare that it throws RuntimeException in its declaration.
b) The program will compile without error and will throw java.lang.RuntimeException when run.
c) The program will compile without error and will throw java.lang.NullpointerException when run.
d) The program will compile without error and will run and terminate without any output.

151.Given the following program, which one of the statements is true?

```
public class Exceptions {
   public static void main(String[] args) {
      try {
         if (args.length == 0) return;
         System.out.println(args[0]);
      } finally {
         System.out.println("The end");
      }
   }
}
```

a) If run with one argument, the program will produce no output.
b) If run with one argument, the program will simply print the given argument.
c) If run with one argument, the program will print the given argument followed by "The end".
d) The program will throw an ArrayIndexOutOfBoundsException.

152.Given the following:

```
public class TestDivide {
   public static void main(String[] args) {
      int value=0;
      try {
         int result = 10/value;
      } finally {
         System.out.println("f");
      }
   }
}
```

What is the result ?
a) Compilation fails since a catch block is not present.
b) Prints only "f" in the output.
c) Only a runtime error is displayed.
d) Prints an "f" in the output and a runtime error is also displayed.

153.Given the following code in the 3 java files:

NewException.java

```
class NewException extends Exception {
}
```

Welcome.java

```
class Welcome {
public String displayWelcome(String name) throws
NewException {
if(name == null) {
throw new NewException();
}
return "Welcome "+ name;
}
10.}
```

TestNewException.java

```
11.class TestNewException {
public static void main(String... args) {
Welcome w = new Welcome();
System.out.println(w.displayWelcome("Ram"));
}
```

16.}

What is the result on compiling and executing it ?

a) Compiles successfully and displays Ram when TestNewException is executed.

b) Runtime exception occurs on executing the class TestNewException.

c) Compilation of Welcome.java fails.

d) Compilation of TestNewException.java fails

154.Given the following code:

```
public class ArithmeticTest {
   public static void main(String[] args){
      try
      {
         int x=0;
         int y=5/x;
         System.out.println(y);
      }
      catch (Exception e)
      {
         System.out.println("Exception");
      }
      catch (ArithmeticException ae)
      {
         System.out.println("ArithmeticException");
      }
   }
}
```

What is the output?

a) Exception

b) ArithmeticException

c) NaN

d) Compilation Error

155.Given the following,

```
1.  import java.io.*;
2.  public class MyProgram {
3.  public static void main(String args[]){
4.  FileOutputStream out = null;
5.  try {
6.  out = new FileOutputStream("test.txt");
7.  out.write(122);
8.  }
9.  catch(IOException io) {
10. System.out.println("IO Error.");
11. }
12. finally {
13. out.close(); ⟶ unhandled exception
14. }
15. }
16. }
```

and given that all methods of class FileOutputStream, including close(), throw an IOException, which one of these is true?

a) This program will compile successfully.

b) This program fails to compile due to an error at line 13.

c) This program fails to compile due to an error at line 9.

d) This program fails to compile due to an error at line 6.

156.Given the following:

```
1.  class Base {
2.  void display() throws Exception { throw new Exception();
    }
3.  }
4.  public class Derived extends Base {
5.  void display() { System.out.println("Derived"); }
6.  public static void main(String[] args) {
7.  new Derived().display();
```

```
8.  }
9.  }
```

What is the result ?

a) Derived

b) The code runs with no output.

c) Compilation fails because of an error in line 2.

d) Compilation fails because of an error in line 7.

157.Given the following,

```
1.  public class RTExcept {
2.  public static void throwit () {
3.  System.out.print("throwit ");
4.  throw new RuntimeException();
5.  }
6.  public static void main(String [] args) {
7.  try {
8.  System.out.print("hello ");
9.  throwit();
10. }
11. catch (Exception re ) {
12. System.out.print("caught ");
13. }
14. finally {
15. System.out.print("finally ");
16. }
17. System.out.println("after ");
18. }
19. }
```

What is the output ?

a) hello throwit caught

b) hello throwit RuntimeException caught after

c) hello throwit caught finally after

d) hello throwit caught finally after RuntimeException

158.

```
public class ExceptionTest {
  public static void main(String[] args)
  {
    try
    {
      ExceptionTest a = new ExceptionTest();
      a.badMethod();
      System.out.println("A");
    }
    catch (Exception e)
    {
      System.out.println("B");
    }
    finally
    {
      System.out.println("C");
    }
  }

  void badMethod()
  {
    throw new Error();
  }
}
```

What is the output?

a) BC followed by Error exception

b) Error exception followed by BC

c) C followed by Error exception

d) Error exception followed by C

159.Given the following,

```
public class MyProgram {
public static void throwit() {
```

```
throw new RuntimeException();
}
public static void main(String args[]){
try {
System.out.println("Hello world ");
throwit();
System.out.println("Done with try block ");
}
finally {
System.out.println("Finally executing ");
}
}
}
```

Which answer most closely indicates the behavior of the program?

a) The program will not compile.

b) The program will print Hello world, then will print that a RuntimeException has occurred, then will print Done with try block, and then will print Finally executing.

c) The program will print Hello world, then will print that a RuntimeException has occurred, and then will print Finally executing.

d) The program will print Hello world, then will print Finally executing, then will print that a RuntimeException has occurred.

160.Given the following,

```
1. System.out.print("Start ");
2. try {
3.     System.out.print("Hello world");
4.     throw new FileNotFoundException();
5. }
6. System.out.print(" Catch Here ");
7. catch(EOFException e) {
8.     System.out.print("End of file exception");
9. }
10. catch(FileNotFoundException e) {
11.     System.out.print("File not found");
12. }
```

and given that EOFException and FileNotFoundException are both subclasses of IOException, and further assuming this block of code is placed into a class, which statement is most true concerning this code?

a) The code will not compile.

b) Code output: Start Hello world File Not Found.

c) Code output: Start Hello world End of file exception.

d) Code output: Start Hello world Catch Here File not found.

161.Given the following code:

```
1. import java.io.IOException;
    1.  2. public class ExceptionTest
    2.  {
    3.  public static void main(String[] args)
    4.  {
    5.  try
    6.  {
    7.  methodA();
    8.  }
    9.  catch(IOException e)
    10. {
    11. System.out.println("Caught IO Exception");
    12. }
    13. catch(Exception e)
    14. {
    15. System.out.println("Caught Exception");
    16. }
    17. }
    18. static public void methodA()
```

```
19.  {
20.  throw new IOException();
21.  }
22.  }
```

What is the output ?

a) The output is "Caught Exception".
b) The output is "Caught IO Exception".
c) Code will not compile.
d) Program executes normally without printing a message.

162.Given:

```
public class TestException {
   public static void main(String... args) {
      try {
         // some piece of code
      } catch (NullPointerException e1) {
         System.out.print("n");
      } catch (RuntimeException e2) {
         System.out.print("r");
      } finally {
         System.out.print("f");
      }
   }
}
```

What is the output if NullPointerException occurs when executing the code in the try block ?

a) f
b) nf
c) rf
d) nrf

163.Given the following:

```
1. class ShapeException extends Exception {}
2.
3. class CircleException extends ShapeException {}
4.
5. public class Circle2 {
6.    void m1() throws ShapeException {throw new
CircleException();}
7.
8.    public static void main (String[] args) {
9.       Circle2 circle2 = new Circle2();
10.      int a=0, b=0;
11.
12.      try {circle2.m1(); a++;} catch (ShapeException e) {b++;}
13.
14.      System.out.printf("a=%d, b=%d", a, b);
15.   }
16.}
```

What is the expected output ?

a) a=0, b=0
b) a=1, b=0
c) a=0, b=1
d) Compile time error at line 6.

164.Given the following:

```
1. class ShapeException extends Exception {}
2.
3. class CircleException extends ShapeException {}
4.
5. public class Circle1 {
6.    void m1() throws CircleException {throw new
ShapeException();}
7.
8.    public static void main (String[] args) {
9.       Circle1 circle1 = new Circle1();
```

```
10.       int a=1, b=1;
11.
12.       try {circle1.m1(); a--;} catch (CircleException e) {b--;}
13.
14.       System.out.printf("a=%d, b=%d", a, b);
15.    }
16.}
```

What is the expected output ?

a) a=1, b=1
b) a=0, b=1
c) a=1, b=0
d) Compile time error at line 6.

Topic: Flow Control

165.Suppose your code needs to traverse through an array named array1. Which code would you use to do this ?
a) for(int i = 0; i <= array1.length; i++)
b) for(int i = 0; i < array1.length; i++)
c) for(int i = 0; i <= array1.length(); i++)
d) for(int i = 0; i < array1.length(); i++)

166.Which of the following is legal?
a) for (int i=0, j=1; i<10; i++, j++) { }
b) for (int i=0, j=1; i<10; i++; j++) { }
c) for (int i=0, j=1; i<10,j<10; i++, j++) { }
d) for (int i=0, float j=1.0; ; i++, j++) { }

167.Which option completes the code to print the message as long as number is greater than 20?

```
int number = 100 ;
MISSING CODE {
   System.out.println("The number = " + number);
   number --;
}
```

a) do while (number > 20)
b) for (number > 20)
c) while (number > 20)
d) if (number >20)

168.Suppose you are writing code for a for loop that must execute three times.Which is the correct declaration for the loop?
a) for (int i < 4; i = 1; i++)
b) for (int i = 0; i < 4; i++)
c) for (int i = 1; i++; i < 4)
d) for (int i = 3; i >=1; i--)

169.Which flow control mechanism determines when a block of code should run more than once?
a) iteration
b) sequence
c) selection
d) exceptions

170.Which of the following is a legal loop definition?
a) while (int a == 0) { /* whatever */ }
b) do { /* whatever */ } while (int a = 0);
c) do { /* whatever */ } while (int a == 0);
d) for (int a=0; a<100; a++) { /* whatever */ }

171.Given the following code:

```
public class SwitchTest {
   public static void main(String [] args) {
      int i=5, j=0;
      switch(i){
         case 2: j+=3;
```

```
   case 4: j+=5;
           default : j+=1;
           case 0: j+=7;
       }
       System.out.println("j value " + j);
   }
}
```

What is the result?

a) j value 16

b) j value 8

c) j value 7

d) Compilation error ("default" should be at the last of the switch statement)

172.Given the following code:

```
public class TestBreak {
   public static void main(String [] args) {
      int i = 2;
      if (i < 2) {
         i++;
         break printAndExit;
      }
      i++;
printAndExit:
      System.out.print(i);
   }
}
```

What will be the result of the above code?

a) 2

b) 3

c) 4

d) Compilation error

173.Given the following:

```
public class DoWhileTest {
    public static void main(String [] args) {
      int i=2, j=5;
      do
      {
         if(i++ > --j) continue;
      }while(i < 3);
      System.out.printf("i=%d, j=%d",i,j);
   }
}
```

After execution, what are the values of i and j?

a) i=4, j=4

b) i=3, j=4

c) i=2, j=4

d) i=2, j=5

174.Which statement is true about the following code fragment?

```
1. int j = 2;
2. switch (j) {
3.    case 2:
4.       System.out.println("value is two");
5.    case 2 + 1:
6.       System.out.println("value is three");
7.       break;
8.    default:
9.       System.out.println("value is " + j);
10.      break;
11. }
```

The code is illegal because of the expression at line 5.

a) The output would be
value is two

b) The output would be
value is two

value is three
c) The output would be
value is two
value is three
d) value is 2

175.Given the following:
```
public class TestLoop
{
   public static void main(String... args)
   {
      int index = 2;
      while( --index > 0 )
         System.out.println( index );
   }
}
```
What is printed to standard output?
a) 1
0
b) 1
2
c) 1
d) Nothing is printed

176.Given the following,
```
1. int i = 0;
2. label:
3.    if (i < 2) {
4.       System.out.print(" i is " + i);
5.       i++;
6.       continue label;
7.    }
```
What is the result?
a) Compilation fails.
b) Produces no output
c) i is 0
d) i is 0 i is 1

177.Given the following:
```
public class TestLoop {
   public static void main(String... args) {
      outer: for( int i = 0; i <2; i++ )
      {  inner: for( int j = 0; j < 2; j++ )
         {  if( j==1 )
            continue outer;
            System.out.printf( "i=%d, j=%d\n",i,j);
         }
      }
   }
}
```
What is printed to standard output?
a) i=0, j=0
b) i=0, j=0
i=1, j=0
c) i=0, j=0
i=0, j=1
d) i=0, j=0
i=1, j=1

178.Given the following code:
```
public class PESTest {
   public static void main (String[] args) {
      int j = 0;
      do for (int i = 0; i++ < 2;)
         System.out.print(i);
      while (j++ < 1);
```

```
   }
}
```
What is the result of attempting to compile and run the program?
a) Prints: 12
b) Prints: 1212
c) Prints: 121212
d) Compile-time error

179.Given:
```
   switch( i)
   {
      default :
         System.out.println("Hello");
   }
```
What is the acceptable type for the variable i?

a) byte
b) float
c) double
d) Object

180.Given the following code:
```
public class TestSwitch {
    public static void main(String args[]) {
        byte b = -1;
        switch(b) {
            case -1: System.out.print("-1"); break;
            case 127: System.out.print("127"); break;
            case 128: System.out.print("128"); break;
            default: System.out.print("Default ");
}}}
```
What is the result of attempting to compile and run the program?
a) Prints: -1
b) Prints: 128
c) Prints: Default
d) Compile-time error

181.Given the following code:
```
public class TestFor {
    static int i;
    public static void main(String args[]) {
        for (i=1; i<2; i++) {System.out.print(i);}       // Line 1
        for (int i=1; i<2; i++) {System.out.print(i);}   // Line 2
        int i;                                           // Line 3
        for (i=0; i<1; i++) {System.out.print(i);}       // Line 4
        System.out.print(TestFor.i);
}}
```
What is the result of attempting to compile and run the program?
a) Prints: 1100
b) Prints: 1102
c) Compile-time error at Line 1
d) Compile-time error at Line 4

182.For the code snippet:
```
int m = 0;
while( ++m < 2 )
    System.out.println( m );
```
What is printed to standard output?
a) 0
b) 1
c) 2
d) Nothing is printed

183.Given the following code:
```
public class TestForSwitch {
    public static void main (String[] args) {
        for (int i = 0; i < 3; i++) {
```

```
   switch (i) {
                default: System.out.print("D");
                case 0: System.out.print("0");
                case 1: System.out.print("1");
}}}}
```
What is the result of attempting to compile and run the program?
a) Prints: DDD
b) Prints: 01D
c) Prints: 01D01
d) Prints 011D01

184.Given the following code:
```
class SwitchTest {
   public static void main(String args[]) {
      int x = 3; int success = 0;
      do {
         switch(x) {
            case 0: System.out.print("0"); x += 5; break;
            case 1: System.out.print("1"); success++; break;
            case 2: System.out.print("2"); x += 1; break;
            case 3: System.out.print("3"); x -= 2; break;
            default: break;
         }
      } while ((x != 1) || (success < 2));
}}
```
What is the result of attempting to compile and run the program?
a) Prints: 3631
b) Prints: 3621
c) Prints: 311
d) Compile-time error

185.Given the following,
```
1. public class Test {
2.    public static void main(String [] args) {
3.       int i = 1;
4.       do while ( i < 1 )
5.          System.out.print(" i is " + i);
6.       while ( i > 1 ) ;
7.    }
8. }
```
What is the result?
a) i is 1
b) i is 1 i is 1
c) No output is produced.
d) i is 1 i is 1 ... in an infinite loop.

186.Given the following code:
```
public class JavaRunTest {
    public static void main (String[] args) {
       int i = 0, j = 8;
       do {
          if (j < 4) {break;} else if (j-- < 7) {continue;}
          i++;
       } while (i++ < 5);
       System.out.print(i + "," + j);
    }
}
```
What is the result of attempting to compile and run the program?
a) Prints: 5,4
b) Prints: 6,5
c) Prints: 6,4
d) Prints: 5,7

187.Given the following:
```
public class DoTest
{
   public static void main(String[] args)
```

```
   {
      boolean flag; int index=3;
      do
      {
         flag = false;
         System.out.print(index);
         index--;
         flag = (index>0);
         continue;
      } while ((flag) ? true : false);
   }
}
```

What will be the output of above code?

a) 3210

b)321

c) Will go into an infinite loop

d)Compilation error

188.Given the following code:

```
1. public class Test1
2. {
3.     public static void main(String[] args)
4.     {
5.         int i=0;
6.         while(i)
7.         {
8.             if(i==4) break;
9.             i++;
10.        }
11.    }
12. }
```

What will be the value of i at line 11?

a) 0

b)4

c)5

d) The code will not compile.

189.Given the following code what is the effect of the parameter "num" passed a value of 1.

```
public class LoopTest {
   public static void process(int num) {
   loop:   for (int i = 1; i < 2; i++){
              for (int j = 1; j < 2; j++) {
                 if (num > j) {
                    break loop;
              }
              System.out.println(i * j);
           }
      }
   }
   public static void main (String[] args) {
      process(1);
   }
}
```

a) Generates a runtime error

b) 3

c) 2

d) 1

190.Given the following code:

```
public class TestIf {
    public static void main(String[] args) {
        boolean bFlag = true;
        if (bFlag = false) {System.out.print("X");
        } else if (bFlag) {System.out.print("Y");
        } else {System.out.print("Z");}
}}
```

What is the result of attempting to compile and run the program?
a) Prints: X
b) Prints: Y
c) Prints: Z
d) Compile-time error

192.Given the following:
```
public class TestLoop2
{
   public static void main(String... args)
   {
      int count = 10;
      while( count++ < 11 )
         System.out.println( count );
   }
}
```
What is the output ?
a) 10
11
b) 10
c) 11
d) Nothing is printed

193.Given the following:
```
public class TestDoWhile
{
   public static void main(String... args)
   {
      int count = 20;
      do {
         System.out.println( count );
      } while ( count++ < 21 );
   }
}
```
What is the output ?
a) 20
21
b) 20
c) 21
d) Nothing is printed

194.Given the following:
```
public class TestIfBoolean {
   public static void main(String[] args) {
      Boolean bFlag=null;
      if (bFlag) {
         System.out.print("A");
      } else if (bFlag == false) {
         System.out.print("B");
      } else {
         System.out.print("C");
      }
   }
}
```
What is the expected output ?
a) A
b) B
c) C
d) java.lang.NullPointerException is thrown at runtime

195.Given the following,
```
1. int j = 7;
2. label:
3.    if (j > 5) {
4.       System.out.print(" j is " + j);
5.       j--;
```

6. continue label;
7. }
What is the result?
a) j is 7
b) j is 7 j is 6
c) Compilation fails
d) Produces no output

Topic: Inheritance Concepts

195.Which statement is true?
a) A super() or this() call must always be provided explicitly as the first statement in the body of a constructor.
b) If both a subclass and its superclass do not have any declared constructors, the implicit default constructor of the subclass will call super() when run.
c) If neither super() nor this() is declared as the first statement in the body of a constructor, then this() will implicitly be inserted as the first statement.
d) If super() is the first statement in the body of a constructor, then this() can be declared as the second statement.

197.A class Car and its subclass Yugo both have a method run() which was written by the programmer as part of the class definition. If junker refers to an object of type Yugo, what will the following code do?
junker.run();
a) The run() method defined in Yugo will be called.
b) The run() method defined in Car will be called.
c) The compiler will complain that run() has been defined twice.
d) Overloading will be used to pick which run() is called.

198.Here is a situation:
Birthday happy;
happy = new AdultBirthday("Joe", 39);
happy.greeting();
Which greeting() method is run ?
a) The one defined for Birthday because that is the type of the variable happy.
b) The one defined for AdultBirthday because that is the type of the object referred to by happy.
c) The one closest in the source code to the happy.greeting() statement.
d) The assignment statement where the AdultBirthday object is assigned to happy variable is an error.

199.Can an object of a child type be assigned to a variable of the parent type? For example,
Card crd;
BirthDay bd = new BirthDay("Lucinda", 42);
crd = bd; // is this correct?
a) No-there must always be an exact match between the variable and the object types.
b) No-but a object of parent type can be assigned to a variable of child type.
c) Yes-an object can be assigned to a reference variable of the parent type.
d) Yes-any object can be assigned to any reference variable.

200.class A { A(int i) {} } // 1
class B extends A { } // 2
Which one of the following statements is correct?

a) compiler attempts to create a default constructor for class A.
b) Compile-time error at 1.
c) Compile-time error at 2.

d) Compiles successfully without any errors.

201.You want subclasses in any package to have access members of a superclass. Which is the most restrictive access modifier that will accomplish this objective?
a) public
b) private
c) protected
d)transient

202.What determines what method is run in the following:
Card crd = new BirthDay("Lucinda", 42);
crd.greeting();
a) The type of the object or the type of the reference variable?
b) The type of the object.
c) The type of the reference variable.
d) Both (type of object as well as the reference variable).

203.Which one of the following statement is false?
a) A subclass must override all the methods of the superclass.
b)It is possible for a subclass to define a method with the same name and parameters as a method defined by the superclass.
c) Aggregation defines a has-a relationship between a superclass and its subclasses.
d) Inheritance defines a is-a relationship between a superclass and its subclasses.

204.Which statement is true?
a) Inheritance defines a has-a relationship between a superclass and its subclasses.
b) Every Java object has a public method named equals.
c) Every Java object has a public method named length.
d) A final class can be extended by any number of classes

205.Which statement is true?
a) Private methods of a superclass cannot be overridden in subclasses.
b) A subclass can override any method present in a superclass.
c) An overriding method can declare that it throws more exceptions than the method it is overriding.
d) The parameter list of an overriding method must be a subset of the parameter list of the method that it is overriding.

206.Which statement is true?
a) The subclass of a non-abstract class can be declared abstract.
b) All the members of the superclass are inherited by the subclass.
c) A final class can be abstract.
d) A class in which all the members are declared private, cannot be declared public.

207.What restriction is there on using the super reference in a constructor?
a) It can only be used in the parent's constructor.
b) Only one child class can use it.
c) It must be used in the last statement of the constructor.
d) It must be used in the first statement of the constructor.

208.Given classes A, B, and C, where B extends A, and C extends B, and where all classes implement the instance method void doIt(). How can the doIt() method in A be called from an instance method in C?
a) super.doIt();
b) super.super.doIt();
c) A.this.doIt();
d) It is not possible.

209.Which one of the following statement is false?
a) The subclass of a non-abstract class can be declared abstract.
b) All members of the superclass are inherited by the subclass.
c) A final class cannnot be abstract.
d) A top level class in which all the members are declared private, can be declared public.

210.Which statement is true?
a) Public methods of a superclass cannot be overridden in subclasses.
b) Protected methods of a superclass cannot be overridden in subclasses.
c) Methods with default access in a superclass cannot be overridden in subclasses.
d) Private methods of a superclass cannot be overridden in subclasses.

211.Which statement is true?
a) A subclass must define all the methods from the superclass.
b) It is possible for a subclass to define a method with the same name and parameters as a method defined by the superclass.
c) Aggregation defines a is-a relationship between a superclass and its subclasses.
d) It is possible for two classes to be the superclass of each other.

212.Given the following:

```
class Vehicle { }
class FourWheeler extends Vehicle { }
class Car extends FourWheeler { }
public class TestVehicle
{
   public static void main(String[] args)
   {
      Vehicle v = new Vehicle();
      FourWheeler f = new FourWheeler();
      Car c = new Car();
      xxxxxxx
   }
}
```

Which of the following statement is legal, which can be substituted for xxxxxxx ?
a) v = c;
b) c = v;
c) f = v;
d) c = f;

213.Given the following,

```
1. class ParentClass {
2.     public int doStuff(int x) {
3.         return x * 2;
4.     }
5. }
6.
7. public class ChildClass extends ParentClass {
8.     public static void main(String [] args ) {
9.         ChildClass cc = new ChildClass();
10.        long x = cc.doStuff(7);
11.        System.out.println("x = " + x);
12.    }
13.
14.    public long doStuff(int x) {
15.        return x * 3;
16.    }
17. }
```

What is the result?
a) x = 14
b) x = 21

c) Compilation fails at line 2.
d) Compilation fails at line 14.

214.1. public class TestPoly {
2. public static void main(String [] args){
3. Parent p = new Child();
4. }
5. }
6.
7. class Parent {
8. public Parent() {
9. super();
10. System.out.println("instantiate a parent");
11. }
12. }
13.
14. class Child extends Parent {
15. public Child() {
16. System.out.println("instantiate a child");
17. }
18. }
What is the result?
a) instantiate a child
b) instantiate a parent
ic) nstantiate a child
instantiate a parent
d) instantiate a parent
instantiate a child

215.1 abstract class AbstractIt
2 {
3 abstract float getFloat();
4 }
5 public class Test1 extends AbstractIt
6 {
7 private float f1 = 1.0f;
8 private float getFloat(){ return f1;}
9
10 public static void main(String[] args)
11 {
12 }
13 }
a) Compilation error at line no 5
b) Runtime error at line 8
c) Compilation error at line no 8
d) Compilation succeeds

216.Given:
interface I1 {}
class A implements I1 { }
class B extends A {}
class C extends B {
public static void main(String[] args) {
B b = new B();
xxxxxxx // insert statement here
}
}
Which code, inserted at xxxxxxx, will cause a cte?
a) A a = b;
b) I1 i= (C)b;
c) I1 i= (A)b;
d) B b2 = (B)(A)b;

217.What will be the result of attempting to compile and run the following program?
public class Polymorphism {
public static void main(String[] args) {

```
    A ref1 = new C();
      B ref2 = (B) ref1;
      System.out.println(ref2.f());
   }
}
class A { int f() { return 0; } }
class B extends A { int f() { return 1; } }
class C extends B { int f() { return 2; } }
```

a) The program will fail to compile.
b) The program will compile without error, but will throw a ClassCastException when run.
c) The program will compile without error and print 1 when run.
d) The program will compile without error and print 2 when run.

218.Say that class Rodent has a child class Rat and another child class Mouse. Class Mouse has a child class PocketMouse. Examine the following

```
Rodent rod;
Rat rat = new Rat();
Mouse mos = new Mouse();
PocketMouse pkt = new PocketMouse();
```

Which one of the following will cause a compiler error?
a) rod = rat;
b) rod = mos;
c) pkt = null;
d) pkt = rat;

219.What would be the result of attempting to compile and executing the following code?

```
// Filename: MyClass.java
public class MyClass {
   public static void main(String[] args) {
      C c = new C();
      System.out.println(c.max(13, 29));
   }
}
class A {
   int max(int x, int y) { if (x>y) return x; else return y; }
}
class B extends A{
   int max(int x, int y) { return super.max(y, x) - 10; }
}
class C extends B {
   int max(int x, int y) { return super.max(x+10, y+10); }
}
```

a) The code will fail to compile because the max() method in B passes the arguments in the call super.max(y, x) in the wrong order.
b) The code will fail to compile because a call to a max() method is ambiguous.
c) code will compile without errors and will print 29 when run.
d) code will compile without errors and will print 39 when run.

220.Consider the following class heirarchies

```
class A { }
class B extends A { }
class C extends B { }
```

And the following method declaration

```
public B doSomething ( ) {
   // some valid code fragments
   return xx;
}
```

Objects of which class (from the heirarchy shown above) can be safely substituted in place of xx in the method doSomething ( ) ?
a) Object of class A
b) An array object of class B
c) Object of class C

d) An array object of class C

221.Given the following code, which is the simplest print statement that can be inserted into the print() method?

```
// Filename: MyClass.java
public class MyClass extends MySuperclass {
   public static void main(String[] args) {
      MyClass object = new MyClass();
      object.print();
   }
   public void print() {
      // INSERT CODE HERE THAT WILL PRINT
      // THE "Hello, world!" STRING FROM THE Message
      // CLASS.
   }
}
class MySuperclass {
   Message msg = new Message();
}
class Message {
   // The message that should be printed:
   String text = "Hello, world!";
}
```

a) System.out.println(Message.text);
b) System.out.println(msg.text);
c) System.out.println(object.msg.text);
d) System.out.println(super.msg.text);

222.Given the following code, which of these constructors can be added to MySub class without causing a compile-time error?

```
class MySuper {
   int number;
   MySuper(int i) { number = i; }
}
class MySub extends MySuper {
   int count;
   MySub(int cnt, int num) {
      super(num);
      count=cnt;
   }
   // INSERT ADDITIONAL CONSTRUCTOR HERE
}
```

a) MySub() {}
b) MySub(int cnt) { count = cnt; super(cnt); }
c) MySub(int cnt) { this(cnt, cnt); }
d) MySub(int cnt) { super(cnt); this(cnt, 0); }

223.Given the following,

```
class A {
   public void baz() {
      System.out.println("A");
   }
}
public class B extends A {
   public static void main(String [] args) {
      A a = new B();
      a.baz();
   }
   public void baz() {
      System.out.println("B");
   }
}
```

What is the result?
a) A
b)B
c)Compilation fails.
d) An exception is thrown at runtime.

224.Given the following:

```
1.  public class MyClass {
2.     public static void main(String[] args) {
3.        Derived d = new Derived("hello");
4.     }
5.  }
6.
7.  class Base {
8.     Base() { this("a", "b"); }
9.
10.    Base(String x, String y) { System.out.println(x + y); }
11. }
12.
13. class Derived extends Base {
14.    Derived(String s) { System.out.println(s); }
15. }
```

What is the output?

a) It will print hello followed by ab.
b) It will print ab followed by hello.
c) It will print hello.
d) It will print ab

225.Given the code below:

```
1.  class Fruit {
2.  Fruit getInstance() {
3.  return this;
4.  }
5.  void print()
6.  {
7.  System.out.println("Fruit");
8.  }
9.  }
10. 10.
11. public class Apple extends Fruit {
12. Apple getInstance() {
13. return this;
14. }
15. void print()
16. {
17. System.out.println("Apple");
18. }
19. public static void main(String... args)
20. {
21. Fruit fr = new Apple().getInstance();
22. fr.print();
23. }
24. }
```

What will be the output?

a) Fruit
b) Apple
c) Compilation error at Line 12; Return type of the overriding method getInstance() cannot be different from the return type of the overridden method of the super class.
d) java.lang.ClassCast Exception at Line 21 since Apple instance cannot be assigned to Fruit.

226.Given the following,

```
1. class B extends A {
2.    int getID() {
3.       return id;
4.    }
5. }
6. class C {
7.    public int name;
8. }
9. class A {
10.   C c = new C();
```

```
11.    public int id;
12. }
```
Which one is correct about instances of the classes listed above?
a) A is-a B
b) C is-a A
c) B has-a A
d) B has-a C

227.Given the following,
```
1. class Over {
2.     int doStuff(int a, float b) {
3.         return 7;
4.     }
5. }
6.
7. class Over2 extends Over {
8.     // insert code here
9. }
```
Which method, if inserted at line 8, will not compile?
a) public int doStuff(int x, float y) { return 4; }
b) protected int doStuff(int x, float y) {return 4; }
c) private int doStuff(int x, float y) {return 4; }
d)private int doStuff(int x, double y) { return 4; }

228.Given:
```
abstract class Shape {
   public abstract void draw();
}
public class Circle extends Shape {
   public void draw() { }
}
```
Which one of the following statement is correct?
a) Shape s = new Shape();
s.draw();
b) Circle c = new Shape();
c.draw();
c) Shape s = new Circle();
s.draw();
d) Shape s = new Circle();
s->draw();

229.Given the following code, which statement is true?
```
public interface HeavenlyBody { String describe(); }
class Star implements HeavenlyBody {
   String starName;
   public String describe() { return "star " + starName; }
}
class Planet {
   String name;
   Star orbiting;
   public String describe() {
      return "planet " + name + " orbiting " + orbiting.describe();
   }
}
```
a) The code will fail to compile.
b) The use of aggregation is justified, since Planet has-a Star.
c) The code will fail to compile if the name starName is replaced with the name bodyName throughout the declaration of the Star class.
d) An instance of Planet is a valid instance of a HeavenlyBody.

230.Given the following,
```
class Foo {
   String doStuff(int x) { return "hello"; }
}
```
Which method would not be legal in a subclass of Foo?
a) String doStuff(int x) { return "hello"; }

b) int doStuff(int x) { return 42; }
c) public String doStuff(int x) { return "Hello"; }
d) protected String doStuff(int x) { return "Hello"; }

231.Given:

```
1. public class TestOverload {
2.
3.    public void process() {
4.    }
5.
6.    public String process() {
7.       return "hello";
8.    }
9.
10.   public float process(int x) {
11.      return 67.5f;
12.   }
13.}
```

What is the result?
a) An exception is thrown at runtime.
b) Compilation fails because of an error in line 10.
c) Compilation fails because of an error in line 6.
d) Compilation succeeds and no runtime errors with class TestOverload occur.

232.Given the following code:

```
class MySuper {
   final int calculate(int i, int j)
   {
      return i*j;
   }
}
public class MySub extends MySuper {
   int calculate(int i, int j)
   {
      return 2*i*j;
   }

   public static void main(String [] args) {
      MySuper sup = new MySub();
      int k = sup.calculate(2,5);
      System.out.println(k);
   }
}
```

What is the result?
a) 10
b) 20
c) Compilation error
d) An exception is thrown at runtime

233.Given the following classes and declarations, which statement is true?

```
// Classes
class Foo {
   private int i;
   private void f() { /* ... */ }
   public void g() { /* ... */ }
}
class Bar extends Foo {
   public int j;
   public void g() { /* ... */ }
}
// Declarations:
// ...
   Foo a = new Foo();
   Bar b = new Bar();
// ...
```

a) The statement b.f(); is legal.
b) The statement a.j = 5; is legal.
c) The statement a.g(); is legal.
d) The statement b.i = 3; is legal

234.Say that class Rodent has a child class Rat and another child class Mouse. Class Mouse has a child class PocketMouse.
Examine the following
Rodent rod;
Rat rat = new Rat();
Mouse mos = new Mouse();
PocketMouse pkt = new PocketMouse();
Which of the following array declarations is correct for an array that is expected to hold up to 10 objects of types Rat, Mouse, and PocketMouse?
a) Rat[] array = new Rat[10];
b) Rodent[] array = new Rat[10];
c) Rodent[] array = new Rodent[10];
d) Rodent[10] array;

235.Given the following,
```
1. class MySuper {
2.     public MySuper(int i) {
3.         System.out.println("super " + i);
4.     }
5. }
6.
7. public class MySub extends MySuper {
8.     public MySub() {
9.         super(2);
10.        System.out.println("sub");
11.    }
12.
13.    public static void main(String [] args) {
14.        MySuper sup = new MySub();
15.    }
16. }
```
What is the result?
a) sub
super 2
b) super 2
sub
c) Compilation fails at line 9.
d) Compilation fails at line 14.

236.Given:
```
public class Employee {

   private String empID;
   public String empName;
   private Integer age;
   public void setEmployeeInfo(String empID, String empName,
Integer age) {
      this.empID = empID;
      this.empName = empName;
      this.age = age;
   }
}
```
Which is true?
a) The class is fully encapsulated.
b) The empName variable breaks encapsulation.
c) The empID and age variables break polymorphism.
d) The setEmployeeInfo method breaks encapsulation.

237.Assuming Card is the base class of Valentine, Holiday and Birthday, in order for the following code to be correct, what must be the type of the reference variable card?

_____ card;
card = new Valentine("Joe", 14) ;
card.greeting();
card = new Holiday("Bob") ;
card.greeting();
card = new Birthday("Emily", 12) ;
card.greeting();
a) Valentine
b) Holiday
c) Birthday
d) Card

238.Given the following:
```
1.  class Animal {
2.     String name = "No name";
3.     public Animal(String nm) { name = nm; }
4.  }
5.
6.  class DomesticAnimal extends Animal {
7.     String animalFamily = "nofamily";
8.     public DomesticAnimal(String family) { animalFamily = family;
}
9.  }
10.
11. public class AnimalTest {
12.    public static void main(String[] args) {
13.       DomesticAnimal da = new DomesticAnimal("cat");
14.       System.out.println(da.animalFamily);
15.    }
16. }
```
What is the result ?
a) cat
b) nofamily
c) An exception is thrown at runtime.
d) Compilation fails due to an error in line 8.

239.What will be the result of attempting to compile and run the following program?
```
public class Polymorphism2 {
   public static void main(String[] args) {
      A ref1 = new C();
      B ref2 = (B) ref1;
      System.out.println(ref2.g());
   }
}
class A {
   private int f() { return 0; }
   public int g() { return 3; }
}
class B extends A {
   private int f() { return 1; }
   public int g() { return f(); }
}
class C extends B {
   public int f() { return 2; }
}
```
a) The program will compile without error and print 0 when run.
b) The program will compile without error and print 1 when run.
c) The program will compile without error and print 2 when run.
d) The program will compile without error and print 3 when run.

240.Given the following code:
```
class B { int m = 7; }
class D extends B { int m = 9; }
public class TestBaseDerived {
   public static void main(String[] args) {
```

```
    B b = new B();
      D d = new D();
      B bd = new D();
      System.out.printf("%d %d %d", b.m, d.m, bd.m);
    }
}
```

What will be the output on executing the above code ?
a) 7 9 7
b) 7 9 9
c) 9 7 9
d) 9 9 7

241.Given the following,

```
1. class MyInherit {
2.    int calculate(int m, float n) {
3.       return 9;
4.    }
5. }
6.
7. class MyInheritChild extends MyInherit {
8.    // insert code here
9. }
```

Which method, if inserted at line 8, will NOT compile?
a) private int calculate(int a, float b) {return 25; }
b) private int calculate(int a, double b) { return 25; }
c) public int calculate(int a, float b) { return 25; }
d) protected int calculate(int a, float b) {return 25; }

Topic: Keywords, Literals, Identifiers

242.Which of the following keywords is reserved but not used in Java?
a) delete
b) const
c) constant
d) unsigned

243.Which of the following is a valid initialization ?
a) boolean b = TRUE;
b) float f = 27.893;
c) int i = 0xDeadCafe;
d) long l = 79,653;

244.Which of the following is a valid declaration of String ?
a) String S1='null';
b) String S2=null;
c) String S3 = (String) 'face';
d) String S4=(String)\ufeed;

245.What is the correct way to create a String object whose value can be shared and which does not create new object for each similar declaration ?
a) StringBuffer hello = new StringBuffer(14);
b) String hello = new String("Welcome to Java");
c) String hello = "Welcome to Java";
d) String hello[] = "Welcome to Java";

246.What is the default data type of the literal represented as 48.0 ?
a) float
b) double
c) int
d) byte

247.Which of the following is a valid declaration of char ?
a) char ch="a";
b) char ch = 'cafe';

c) char ch = '\ucafe';
d) char ch = '\u10100';

248.Which of the following is a non-primitive data type in Java?
a) int
b) float
c) String
d) double

249.Which of the following is a reserved word in the Java programming language ?
a) reference
b) method
c) native
d) array

250.Which of the following describes an incorrect default value for the types indicated?
a) float -> 0.0f
b) boolean -> false
c) Dog -> null
d) String -> "null"

251.Which statement is true?
a) return, goto, and default are keywords in the Java language.
b) new and delete are keywords in the Java language.
c) exit, class, and while are keywords in the Java language
d) static, unsigned, and long are keywords in the Java language

252.Which of the following variable initialization is invalid?
a) byte myByte=254;
b) double myDouble=12341.509D;
c) int myInt = 0xFACE;
d)long myLong=45678L;

253.Which of the following is a valid Java identifier?
a) _underscore
b) %percent
c) @attherate
d) 3numbers

254.To create a class level constant, which of the following two keywords should be used:
a) public and constant
b) const and final
c) final and constant
d) final and static

255.Which of the following is an invalid initialization ?
a) byte y=0x7a;
b) short s=679;
c) boolean b=FALSE;
d) double d=14.67f;

256.Which of the following is an invalid intialization ?
a) float f = 85.3f;
b) byte t = 0x5e;
c) long l = 9876L;
d) boolean n = TRUE;

257.Given:

```
1. public class Test {
2.     public static void main(String[] args) {
3.         unsigned byte b=0;
4.         b--;
5.
6.     }
```

7. }
What is the value of b at line 5?
a) -1
b) 255
c) Compilation error at line 3 as there is nothing like unsigned byte in Java.
d) Compilation succeeds and throws runtime exception at line 4.

258.What is the result of compiling and executing the below code ?

```
1. public class Test
2. {
3.     public static void main(String[] args)
4.     {
5.         byte b=127;
6.         byte c=15;
7.         byte a = b + c;
8.     }
9. }
```

a) Throws runtime exception at line no 7 saying "out of range".
b) Compilation succeeds and a takes the value of 142.
c) Compilation error at line 5. Byte cant take value of 127.
d) Compilation error at line 7.

259.What will be the output after compiling the following statements?

```
public class TestIdentifier
{
   public static void main(String[] args)
   {
      double volatile = 21+3.775;
      System.out.println(volatile);
   }
}
```

a) 25
b) 24.775
c) 24
d) Compilation error as volatile is a keyword and cannot be used as identifier.

260.What is the result of compiling and executing the below code ?

```
1. public class Test
2. {
3.     public static void main(String[] args)
4.     {
5.         byte b1=198;
6.         byte b2=1;
7.         System.out.println(b1+b2);
8.     }
9. }
```

a) Compilation error at Line 5.
b) Compilation error at Line 7.
c) Prints 199
d) Prints a number different from 199.

261.What results would print from the following code snippet:System.out.println("12345 ".valueOf(54321));
a) 12345 54321
b) 54321
c) The application won't compile.
d) Runtime error

262.Given:

```
1. public class ValueCheck {
2.     public static void main(String[] args) {
```

```
3.      unsigned byte y = -1;
4.      y++;
5.
6.   }
7. }
```
What is the value of y at line 5?
a) 0
b) 2
c) Compilation error at line 3 as there is nothing like unsigned byte in Java.
d) Compilation succeeds and throws runtime exception at line 4.

263.What is the result of compiling and executing the below code ?
```
1. public class ByteTest
2. {
3.    public static void main(String[] args)
4.    {
5.       byte x=100;
6.       byte y=127;
7.       byte z = x + y;
8.    }
9. }
```
a) Throws runtime exception at line no 7 saying "out of range".
b) Compilation succeeds and a takes the value of 227.
c) Compilation error at line 6. Byte cant take value of 127.
d) Compilation error at line 7.

264.What will be the output after compiling the following statements?
```
public class TestIdentifier
{
   public static void main(String[] args)
   {
      float volatile = 53+4.289;
      System.out.println(volatile);
   }
}
```
a) 58
b) 57.289
c) 57
d) Compilation error as volatile is a keyword and cannot be used as identifier.

265.What is the result of compiling and executing the below code ?
```
1. public class Test
2. {
3.    public static void main(String[] args)
4.    {
5.       byte y1=3;
6.       byte y2=225;
7.       System.out.println(y1+y2);
8.    }
9. }
```
a) Compilation error at Line 6.
b) Compilation error at Line 7.
c) Prints 228
d) Prints a number different from 228.

266.What results would print from the following code snippet:System.out.println("ABCDE ".valueOf(98765));
a) ABCDE 98765
b) 98765
c) The application won't compile.
d) Runtime error

267.Given:
```
1. public class TestByte {
2.
3.    public static void main(String[] args) {
4.       unsigned byte t=255;
5.       t++;
6.
7.    }
8. }
```
What is the value of t at line 6?
a) Compilation succeeds and throws runtime exception at line 5.
b) Compilation error at line 4 as there is nothing like unsigned byte in Java.
c) 256
d) 0

Topic: Primitive Types, Objects, References

268.Which range of values is valid for all integral types, where n is the number of bits?
a) 2^(n-1) to 2^(n+1)+1
b) -2^(n-1) to 2^(n-1)-1
c) -2^(n-1) to 2^(n-1)+1
d) -2^(n)-1 to 2^(n-1)-1

269.Given char c = 'A';
What is the simplest way to convert the character value in c into an int?
a) int i = Character.getNumericValue(c);
b) int i = (int) c;
c) int i = int (c);
d) int i = c;

270.Which primitive type ranges from -2^31 to (2^31)-1?
a) long
b) int
c) short
d) byte

271.The primitive type char in Java consists of
a) 8 bits
b) 16 bits
c) 24 bits
d) 32 bits

272.In which of these variable declarations will the variable remain uninitialized unless explicitly initialized?
a) Declaration of an instance variable of type boolean
b) Declaration of a static variable of type double
c) Declaration of a local variable of type short
d) Declaration of a static variable of type String

273.Examine the following section of code:
```
int area;
int perimeter;
String name;
```
How many objects have been created?
a) None, there is one object reference variable, but no objects yet.
b) One, there is one object reference variable so there must be one object.
c) Three, one for each variable.
d) Two, one for each data type.

274.What is the numerical range of char?
a) -128 to 127
b) -(2 ^ 15) to (2 ^ 15) -1

c) 0 to 32767
d) 0 to 65535

275.If i is an int and s is a short, how do you assign i to s?
a) i = s;
b) i = (int) s;
c) s = (short) i;
d) s = i;

276.Which one of the following primitive type conversion is permitted implicitly without using casting?
a) long to int
b) double to long
c) float to double
d) double to float

277.In which of the following answers does the number of bits increase from fewest (on the left) to most (on the right)?
a) byte long short int
b) int byte short long
c) byte short int long
d) short byte long int

278.Which of the following is a valid declaration of boolean?
a) boolean b2 = no;
b) boolean b3 = yes;
c) boolean b4 = false;
d) boolean b5 = Boolean.false();

279.Which primitive type ranges from -2^15 to (2^15)-1?
a) char
b) int
c) short
d) byte

280.Given :
int a = 4;
byte b = 0;
Which line assigns the value of a to b?
a) b = a;
b) b = (byte) a;
c) b = byte a;
d)b = byte(a);

281.Which of the following primitive data type is an integer type?
a) boolean
b) byte
c) float
d) double

282.Given the following code within a method, which statement is true?
int a,b;
b=5;
a) Local variable a is not declared.
b) Local variable b is not declared.
c) Local variable a is declared but not initialized.
d) Local variable b is declared but not initialized.

283.Given:
int index = 2;
boolean[] test = new boolean[3];
boolean foo = test [index];
What is the result?
a) foo has the value of 0.
b) foo has the value of null.

c) foo has the value of true.
d) foo has the value of false.

284.Given the following:

```
1 public class Test {
2    public static void add( Integer i)
3    {
4       int val = i.intValue();
5       val +=3;
6       i = new Integer(val);
7    }
8
9    public static void main (String[] args)
10   {
11      Integer i = new Integer(0);
12      add(i);
13      System.out.println(i.intValue());
14   }
15 }
```

What will be the output?
a) Compilation error
b) Run time error at Line no. 4
c) 3
d) 0

285.What will be the result of attempting to compile and run the following program?

```
public class Integers {
   public static void main(String[] args) {
      System.out.println(0x10 + 10 + 010);
   }
}
```

a) The program will not compile. The compiler will complain about the expression 0x10 + 10 + 010
b) When run, the program will print 30
c) When run, the program will print 34
d) When run, the program will print 101010

286.

```
public class Test
{
   static void operate( StringBuffer x, StringBuffer y)
   {
      x.append(y);
      y = x;
   }
   public static void main(String[] args)
   {
      StringBuffer x = new StringBuffer("Sun");
      StringBuffer y = new StringBuffer("Java");
      operate(x,y);
      System.out.println(x + "," + y);
   }
}
```

What is the result?
a) The code compiles and prints "Sun,Java".
b) The code compiles and prints "Sun,Sun".
The code compiles and prints "Java,Java".
b) The code compiles and prints "SunJava,java".
c)The code compiles and prints "SunJava,SunJava".
d)None of the above

287.

```
public class Test1
{
   private float f1 = 1.0f;
   float getFloat(){ return f1;}
   public static void main(String[] args)
```

```
   {
      String foo = "ABCDE";
      foo.substring(3);
      foo.concat("XYZ");
      System.out.println(foo);
   }
}
```

What will be the output?
a) Compilation error in the line where "substring" is invoked
b) ABXYZ
c) ABCXYZ
d) ABCDE

288.What will be the result of attempting to compile and run the following class?

```
public class Assignment {
   public static void main(String[] args) {
      int a, b, c;
      b = 10;
      a = b = c = 20;
      System.out.println(a);
   }
}
```

a) The code will fail to compile, since the compiler will recognize that the variable c in the assignment statement a = b = c = 20; has not been initialized.
b) The code will fail to compile because the assignment statement a = b = c = 20; is illegal.
c) The code will compile correctly and will display 10 when run.
d) The code will compile correctly and will display 20 when run.

289.
Given:

```
int index = 2;
Boolean[] test = new Boolean[3];
Boolean foo = test [index];
```

What is the result?
a) foo has the value of true.
b) foo has the value of false.
c) foo has the value of null.
d) foo has the value of 0.

Topic: String Concepts

290.What function does the trim() method of the String class perform?
a) It returns a string where the leading white space of the original string has been removed.
b) It returns a string where the trailing white space of the original string has been removed.
c) It returns a string where both the leading and trailing white space of the original string has been removed.
d) It returns a string where all the white space of the original string has been removed.

291.Which one of the following operators cannot be used in conjunction with a String object?
a) +
b) -
c) +=
d) .

292.Which method is not defined in the StringBuffer class?
a) trim()
b) length()
c) append(String)
d) reverse()

293.Which method is not defined in the String class?
a) reverse()
b) length()
c) concat(String)
d) hashCode()

294.Which statement concerning the charAt() method of the String class is true?
a) The index of the first character is 1.
b) The charAt() method returns a Character object.
c) The expression "abcdef".charAt(3) is illegal.
d) expression "abcdef".charAt(3) evaluates to the character 'd'.

295.Which one of the statements is true?
a) StringBuffer is thread safe whereas StringBuilder is not thread safe
b) StringBuffer is not thread safe whereas StringBuilder is thread safe
c) Both String and StringBuilder are immutable
d) Both StringBuffer and StringBuilder are immutable

296.Which one of the expressions will evaluate to true if preceded by the following code?
String a = "hello";
String b = new String(a);
String c = a;
char[] d = { 'h', 'e', 'l', 'l', 'o' };
a) (a == "Hello")
b) (a == b)
c) a.equals(b)
d) a.equals(d)

297.Which one of the expressions will evaluate to true if preceded by the following code?
String str1 = "unread";
String str2 = new String(str1);
String str3 = str1;
char[] str4 = { 'u', 'n', 'r', 'e', 'a', 'd' };
a) (str1 == "Unread")
b) (str1 == str2)
c) str1.equals(str2)
d) str1.equals(str4)

298.Which expression will extract the substring "kap" from a string defined by String str = "kakapo"?
a) str.substring(2, 2)
b) str.substring(2, 3)
c) str.substring(2, 4)
d) str.substring(2, 5)

299.Which one of the following statements is true?
a) String class cannot be subclassed.
b) Subclasses of the String class can be mutable.
c) All objects have a public method named clone().
d) The expression ((new StringBuffer()) instanceof String) is always true.

300.Given the code snippet:
String str = new String("Hello");
Which of the below mentioned is an invalid call ?
a) str.replace('H','h');
b) str.substring(2);
c) str.append("World");
d) str.trim();

301.Given the following,

```
1. public class StringRef {
2.     public static void main(String [] args) {
3.         String s1 = "abc";
4.         String s2 = "def";
5.         String s3 = s2;
6.         s2 = "ghi";
7.         System.out.println(s1 + s2 + s3);
8.     }
9. }
```

What is the result?

a) abcdefghi
b) abcdefdef
c) abcghidef
d) abcghighi

302.Given the following code snippet,

```
13. String x = new String("xyz");
14. y = "abc";
15. x = x + y;
```

How many String objects have been created? Assume the code given above is a portion of the code present in a method.

a) 2
b) 3
c) 4
d) 5

303.Given the following:

```
public class TestSubstring {
   public static void main(String[] args) {
      String str = "international";
      str = str.substring(6,9);
      char b = str.charAt(2);
      str = str + b;
      System.out.println(str);
   }
}
```

What is the result? Assume the code given above is a portion of the code present in a method.

a) atia
b) atii
c) atioa
d) atiot

304.What will be the result of attempting to compile and run the following code?

```
public class StringMethods {
   public static void main(String[] args) {
      String str = new String("eenny");
      str.concat(" meeny");
      StringBuffer strBuf = new StringBuffer(" miny");
      strBuf.append(" mo");
      System.out.println(str + strBuf);
   }
}
```

a) The program will print "eenny meeny miny" when run.
b) The program will print "eenny meeny miny mo" when run.
c) The program will print "meeny miny mo" when run.
d) The program will print "eenny miny mo" when run.

305.What will be the result of attempting to compile and run the following code?

```
public class RefEq {
   public static void main(String[] args) {
      String s = "ab" + "12";
      String t = "ab" + 12;
      String u = new String("ab12");
      System.out.println((s==t) + " " + (s==u));
```

```
}

}
```
a) The program will print true true when run.
b) The program will print false false when run.
c) The program will print false true when run.
d) The program will print true false when run.

306.Given the following code snippet,
```
String x = "xyz";
x.toUpperCase();
String y = x.replace('Y', 'y');
y = y + "abc";
System.out.println(y);
```
What is the result? Assume the code given above is a portion of the code present in a method.
a) abcXyZ
b) abcxyz
c) xyzabc
d) XyZabc

307.Given the following:
```
public class TestStringBuffer {
   public static void main(String[] args) {
      StringBuffer strBuff = new StringBuffer("java platform");
      strBuff.deleteCharAt(4);
      System.out.println(strBuff);
   }
}
```
What is the output ?
a) jav
b)java
c) platform
d) javaplatform

308.What will be the result of attempting to compile and run the following program?
```
public class MyClass {
   public static void main(String[] args) {
      String s = "hello";
      StringBuffer sb = new StringBuffer(s);
      sb.reverse();
      if (s == sb) System.out.println("a");
      if (s.equals(sb)) System.out.println("b");
      if (sb.equals(s)) System.out.println("c");
   }
}
```
a) The program will throw a ClassCastException when run.
b) The code will fail to compile since the expression (s == sb) is illegal.
c) The code will fail to compile since the expression (s.equals(sb)) is illegal.
d) The program will print c when run.

309.What will be the result of attempting to compile and run the following program?
```
public class MyClass {
   public static void main(String[] args) {
      StringBuffer sb = new StringBuffer("have a nice day");
      sb.setLength(6);
      System.out.println(sb);
   }
}
```
a) The code will fail to compile since there is no method named setLength in the StringBuffer class.
b) The program will throw a StringIndexOutOfBoundsException when run.

c) The program will print "have a" when run.
d) The program will print "ce day" when run.

310.What will the following program print when run?

```
public class Search {
   public static void main(String[] args) {
      String s = "Contentment!";
      int middle = s.length()/2;
      String nt = s.substring(middle-1, middle+1);
      System.out.println(s.lastIndexOf(nt, middle));
   }
}
```

a) 2
b) 4
c) 5
d) 7

311.What will be the result of attempting to compile and run the following code?

```
class MyClass {
   public static void main(String[] args) {
      String str1 = "str1";
      String str2 = "str2";
      String str3 = "str3";
      str1.concat(str2);
      System.out.println(str3.concat(str1));
   }
}
```

a) The program will print str3str1 when run.
b) The program will print str3str1str2 when run.
c) The program will print str3 when run.
d) The program will print str3str2 when run.

312.Which one of the following is not legal?
a) System.out.println("st".concat("ep"));
b) System.out.println("st" + "ep");
c) System.out.println('s' + 't' + 'e' + 'p');
d) System.out.println("st" + new String('e' + 'p'));

313.What will be written to the standard output when the following program is run?

```
import static java.lang.System.out;
public class TestOutput {
   public static void main(String[] args) {
      String space = " ";
      String composite = space + "windows" + space + space;
      composite.concat("server");
      String trimmed = composite.trim();
      out.println(trimmed.length());
   }
}
```

a) 7
b) 9
c) 13
d) 15

314.Which expression will evaluate to true?
a) "Hello there".toLowerCase().equals("hello there")
b) "HELLO THERE".equals("hello there")
c) ("hello".concat("there")).equals("hello there")
d) "Hello There".compareTo("hello there") == 0

315.Given the following code snippet,

```
4. String d = "bookkeeper";
5. d.substring(1,7);
```

6. d = "w" + d;
7. d.append("woo");
8. System.out.println(d);
What is the result? Assume, the code given above is a portion of the code present in a method.
a) wookkeewoo
b) wbookkeewoo
c) Compilation fails.
d) An exception is thrown at runtime.

316.What will be the result of attempting to compile and run the following code?

```
public class TestStringOperation {
   public static void main(String[] args) {
      String str1 = new String("java");
      str1.concat(" world");
      StringBuffer strBuf1 = new StringBuffer(" magazine");
      strBuf1.append(" article");
      System.out.println(str1 + strBuf1);
   }
}
```

a) The program will print "java magazine article" when run.
b) The program will print "world magazine article" when run.
c) The program will print "java world magazine" when run.
d) The program will print "java world magazine article" when run.

Topic: Package, Import, Jar Concepts

317.Which is true about the import statement in Java?
a) When .* is used in an import statement, all the classes in that package and the sub-packages will be imported.
b) The import statements must appear before any package statement is declared.
c) The import statement must be the first statement after any package declaration in a file.
d) The import statement is mandatory when using classes of other packages since there is no other way to use a class.

318.The JAR files are packaged using the following format
a) TAR
b) ZIP
c) ARJ
d) CAB

319.In order to run a jar file, say "app.jar" using the command "java -jar app.jar", what condition should be satisfied?
a) app.jar should be given executable permission
b) The manifest file of the jar should specify the class whose main method should be executed.
c) "-jar" is an invalid option for java command and an error will be displayed.
d) There should be a class "app.class" with the same name as the jar file for the command to work.

320.Which one of the following is not a valid header in the manifest of jar file?
a) Specification-Title
b) Application-Version
c) Implementation-Vendor
d) Name

321.A special file which is present inside the JAR that contain information about the files packaged in a JAR file is known as
a) Metafest
b) Metadata
c) Manifest

{

d) Manidata

322.You decide that you wish to add your application's class to a group of classes that are stored in the location /examples/basics. Complete the code to do this
a) package examples.basics;
b) import examples.basics;
c) import package examples.basics;
d) package examples/basics;

323.We want the code in Test.java to access the example.basics.Utilities class which is stored within the example.jar file in the directory /jars. How would you compile your code?
a) javac -classpath /jars/example.jar Test.java
b) javac -classpath /jars/example Test.java
c) javac -classpath /jars/ Test.java
d) javac -classpath /jars Test.java

324.Suppose you are creating a class named Button that you want to include in a group of related classes called controls. Identify the correct code that includes the class in that group.
a) package controls;
b) public class Button
c) package Button;
d) import controls;

325.Which is true about the package statement in Java?
a) It can appear anywhere in the file as long as the syntax is correct.
b) It should appear after all the import statements but before the class declaration.
c) There can be more than one package statement.
d)It should be the first non-comment line in the Java source file.

326.Following is a file format which enables to bundle multiple files into a single file
a) JPG
b) PNG
c) TIF
d) JAR

327.Which is the manifest header that is used to specify the application's entry point in a JAR file?
a) Class-Path
b) Entry-Class
c) Start-Class
d) Main-Class

328.Suppose a class named App1 is located in the samples.messages package. You have compiled the class. How do you execute the class?
a) java App1
b) java samples.messages.App1
c) javac samples.messages.App1
d) java samples.messages.App1.class

329.Why is the main() method special in a Java program?
a) It is where the Java interpreter starts whole program running.
b) Only the main() method may create objects.
c) Every class must have a main() method.
d) main() method must be the only static method in a program.

330.Given the following code:
```
public class Test {
   public static void main(String[] args)
```

```
    System.out.println(args[0]);
  }
}
```
If the above code is compiled and run as follows
java Test Hello 1 2 3
What would be the output ?
a) java
b) Test
c) Hello
d) Hello 1 2 3

Topic: Command Line, System Properties

331.Given the below mentioned code
and the command-line invocation as,

java CommandArgsThree 1 2 3
```
    public class CommandArgsThree {
    public static void main(String [] args) {
    String [][] argCopy = new String[2][2];
    int x;
    argCopy[0] = args;
    x = argCopy[0].length;
    for (int y = 0; y < x; y++) {
    System.out.print(" " + argCopy[0][y]);
    }
    }
    }
```
What is the result?
a) 0 0
b) 1 2
c) 0 0 0
d) 1 2 3

332.Given the below mentioned code
and the command-line invocation as,
java CommandArgsTwo 1 2 3
```
1. public class CommandArgsTwo {
2.    public static void main(String [] argh) {
3.       String [] args;
4.       int x;
5.       x = argh.length;
6.       for (int y = 1; y <= x; y++) {
7.          System.out.print(" " + argh[y]);
8.       }
9.    }
10. }
```
What is the result?
a) 0 1 2
b) 1 2 3
c) 0 0 0
d) An exception is thrown at runtime

333.Given the following code:
```
public class Test {
   public static void main(String[] args)
   {
      System.out.println(args.length);
   }
}
```
If the above code is compiled and run as follows
java Test Hello 1 2 3
What would be the output ?
a) 6
b) 5
c) 4

334.Given A.java contains
class A {public static void main(String... args) {}} // 1
and B.java contains
class B {protected static void main(String[] args) {}} // 2
What is the result of attempting to compile each of the two class declarations and invoke each main method from the command line?
a) Compile-time error at line 1.
b) Compile-time error at line 2.
c) An attempt to run A from the command line fails.
d) An attempt to run B from the command line fails.

335.Given the below mentioned code
and the command-line invocation as,
java CommandArgs 1 2 3 4

```
1. public class CommandArgs {
2.     public static void main(String [] args) {
3.         String s1 = args[1];
4.         String s2 = args[2];
5.         String s3 = args[3];
6.         String s4 = args[4];
7.         System.out.print(" args[2] = " + s2);
8.     }
9. }
```

What is the result?
a) args[2] = 2
b) args[2] = 3
c) args[2] = 1
d) An exception is thrown at runtime

336.Given the following code:

```
public class Foo {
   public static void main(String[] args)
   {
      System.out.println(args[1]);
   }
}
```

If the above code is compiled and run as follows
java Foo Apples 9 8 7
What would be the output ?
a) java
b) Foo
c) Apples
d) 9

337.Given the below mentioned code
and the command-line invocation as,
java CommandArgsFour 9 6 3

```
public class CommandArgsFour {
   public static void main(String [] argh) {
      String [] args;
      int a;
      a = argh.length;
      for (int b= 1; b < a; b++) {
         System.out.print(" " + argh[b]);
      }
  }
}
```

What is the result?
a) null null
b) 9 6
c) 6 3
d) An exception is thrown at runtime

338.Given the below mentioned code
and the command-line invocation as,
java CommandArgsFive 9 8 7 6

```
public class CommandArgsFive {
   public static void main(String [] args) {
      Integer i1 = new Integer(args[1]);
      Integer i2 = new Integer(args[2]);
      Integer i3 = new Integer(args[3]);
      Integer i4 = new Integer(args[4]);
      System.out.print(" args[3] = " + i3);
   }
}
```

What is the result?
a) args[3] = 8
b) args[3] = 7
c) args[3] = null
d) An exception is thrown at runtime

Topic: WiproStyle

339.When does 'Avoid magic numbers' rule in WiproStyle throw a violation?
a) Integer variable is declared
b) A numeric literal that is not defined as a constant is detected
c) When the integer variable is made global
d) No such rule in WiproStyle

340.Which of the following are advantages of using WiproStyle for code review?
a) Reduces code review effort
b) Code is generated automatically
c) Code can be reverse engineered
d) All the above

341.Which of the following can be used to automate code review in Java?
a) Junit
b) Jprofiler
c) WiproStyle
d) None of the above

342.Which of the following is correct with respect to severity level information in Static Analyzers?
a) Severity levels information helps to fix only the violations with critical severity
b) Severity levels information helps to ignore the violations with minor severity
c) Severity levels information helps in better prioritization of violations
d) All of the above

343.What is WiproStyle?
a) WiproStyle is a unit testing tool
b) WiproStyle is a static analysis tool
c) WiproStyle is a structural analysis tool
d) WiproStyle is a testing tool

344.Which of the following refers to the analysis of computer software that is performed without actually executing programs?
a) runtime analysis
b) static analysis
c) profiling
d) none of the above

345.What are coding standards?

a) Standards to avoid code construct having high probability of resulting in an error.
b) Standards to be followed during System testing.
c) Stdards used for defining designing guidelines for the system.
d) Standards that cannot be followed during the CUT phase

346.Which of the WiproStyle rule is violated in below snippet of code,

```
public class Sample{
   public int method1() {
      int a =10; int b=20;
      int c = a*b;
      return c;
   }
}
```

a) Minimize the number of lines by joining multiple shorter lines
b) Avoid return statements
c) Declare all variables in a single line
d) Avoid multiple variable declaration in single line

347.Which of the following is a benefit of using static analyzer?
a) Non-Compliance to coding guidelines can be detected automatically.
b) Unit testing can be performed
c) Code coverage can be measured
d) can reverse engineer the code

348.Which is the earliest phase in which Wiprostyle can be used?
a) System testing
b) Design
c) Requirements
d) Coding

349.Which of the WiproStyle error category is violated in below snippet of code,

```
class Foo{
   public void testA () {
      System.out.println("Entering test");//VIOLATION
   }
}
```

a) Maintainability
b) Security
c) Reliability
d) Efficiency

350.Which of the WiproStyle error category is violated if we use tab character in our source code?
a) Maintainability
b) Efficiency
c) Reliability
d) Portability

351.Which of the following rules does WiproStyle handle?
a) Rules to detect code coverage
b) Formatting ,naming conventions, java doc
c) Rules to detect failed test cases
d) None of the above

352.Which of the software code quality attribute can be improved by following consistent formatting standard?
a) Security
b) Maintainability
c) Efficiency
d) Formatting related standards do not improve any code quality attributes

353.Which of the following violations is thrown by WiproStyle in below code section?

```
public class SrrayListExample {
  int method(int a, int b) {
    int i = a + b;
     return i;
        }
}
```

a) Use arraylist instead of vector
b) Class should define a constructor
c) Avoid instantiating string objects
d) Unused import

354.Which of the following violations is thrown by WiproStyle in below code section?

```
public class Foo {
public void bar() {
 int x = 2;
   switch (x) {
     case 2:
       int j = 8;
 }
}
}
```

a) Avoid Nested Blocks
b) Use arraylist instead of vector
c) Missing Switch Default
d) Multiple variable declaration on the same line

355.Which of the following violations is thrown by WiproStyle in below code section?

```
class A{
int x, y, z;
String firstName, LastName;
int myAge, mySize, numShoes = 28;
int a = 4, b = 5, c = 6;
}
```

a) Avoid Nested Blocks
b) Multiple variable declaration on the same line
c) Empty Block
d) Missing Switch Default

356.Which of the following violations is thrown by WiproStyle in below code section?

```
public class SampleViolation{

 protected void finalize () throws Throwable {  // VIOLATION
 }
}
```

a) Empty Block
b) Avoid Nested Blocks
c) Use SuperFinalize()
d) Missing Switch Default

357.Which of the following options should be used to correct the violation on line 9?

```
1.class Foo {
2. void bar() {
3.try
4.{
5.   compressThumbnailToDisk(metadata, image);
6.}
7.catch (IOException e)
8.{
9.   e.printStackTrace();              //Violation
10.   throw new ResourceError(e.getMessage());
```

11.}
a) System.out.println()
b) java doc
c) System.print.err
d) logger

358.Which of the following violations is thrown by WiproStyle in below code section?

```
public class SampleViolation {
    public int publicVariable; // VIOLATION
    protected int protectedVariable; // VIOLATION
    int packageVariable; // VIOLATION
}
```

a) Trailing Array Comma
b) Visibility Modifier
c) SuperFinalize
d) Missing Switch Default

359.Which of the following violations is thrown by WiproStyle for below code section?

```
import java.*;
import java.util.*;
import java.io.IOException;
public void Helllo{
}
```

a) Use only Star (Demand) Imports
b) Trailing Array Comma
c) Avoid Star (Demand) Imports
d) Avoid multiple import statements

360.Which of the following violations is thrown by WiproStyle in below code section?

```
public interface Foo {
   public void method ();  // VIOLATION
   abstract int getSize ();  // VIOLATION
   static int SIZE = 100;  // VIOLATION
}
```

a) Redundant Modifier
b) Trailing Array Comma
c) Avoid Star (Demand) Imports
d) SuperFinalize

361."Explicitly invalidate Session when user logs off" . This rule address
a) Java secure coding
b) Concurrency and Timing problems
c) Data handling problems
d) Logical problems
websession

362.Which of the following violations will be thrown on the given code snippet.

```
class Foo { boolean bar(String a, String b)  {  return a == b; }}
```

a) Do not instantiate a StringBuffer with a char
b) Use equals() to compare object references
c) Avoid chaining assignment operators
d) Always initialize static fields

363.What violation is expected to be thrown by wiprostyle on the below code ?

```
public class Test {
     int method (int a, int b) {
        int i = a + b; return i;  // Violation
     }
```

a) Simple Statements - line with more than a single statement
b) Avoid chaining assignment operators
c) Trailing Array Comma

d) Avoid assignments in operands

364.public int convert(String s) {
 int i, i2;
 i = Integer.valueOf(s).intValue(); // Violation
 i2 = Integer.valueOf(i).intValue(); // Violation
 return i2;
}
What is the cause of the violation in the above code , that wiprostyle may throw.
a) Do not add empty strings
b) Consider replacing this Vector with the newer java.util.List
c) Unneccessary Wrapper Object creation
d) Avoid instantiating String objects; this is usually unnecessary

365.public class Foo {
public void bar() {
 try {
  // do something
 } catch (Throwable th) { //violation
  th.printStackTrace();
 }
}
}
a) Avoid using exceptions as flow control
b) Avoid catching NullPointerException; consider removing the cause of the NPE
c) Avoid throwing raw exception types
d) A catch statement should never catch throwable since it includes errors

366.public class InvokeWait {
    public void method () throws InterruptedException {
        wait (); // VIOLATION
    } What is the cause of the above violation.
a) Avoid using exceptions as flow control
b) Avoid throwing raw exception types
c) Do not implement 'SingleThreadModel' interface
d) Call wait() inside while or do-while

367.public class Test {
 public static void main() { // VIOLATION
 }
  public void test() {
 }
  public void test1() {
 }
}
  What may be the possible coding standard violation in the above snippet
a) Placement of Constants
b) Avoid Multple overloaded methods
c) Place Main method as last method
d) Use Chain Constructors

368.public class Test {
int AGE; // Violation
public void method1() {
int AGE;
}
String NA__ME11; // Violation
} What is the java coding standard violation expected in the code snippet above?
a) Reduntant Modifiers
b) Declare fields with uppercase character names as 'final'
c) Avoid unused private fields
d) Always initialize static fields

369.public class MI {
```
    public String[] getNames() {
       String[] names = {"ashik","hema"};
       if(names.length != 0) {
          return names;
       } else {
         return null;//Violation
       }
    }
   }
```
How can the above highlighted coding standard violation be fixed?
a) Return Zero length array instead of null
b) Avoid return statements
c) Do not add empty strings
d) Avoid instantiating String objects; this is usually unnecessary

370.public abstract class Sample { //VIOLATION
```
       public abstract StringBuffer getText();
    public abstract int getStartPosition();
    public abstract int getEndPosition();
    public abstract int getStartLine();
    public abstract int getEndLine();
   }
```
What may be the violation thrown by a static analyzer at the highlighted line.
a) If a class Extends / Implements other class then it should have a Naming Convention as defined by the user
b) anonymous classes used as interface implementors
c) Redeclare non-functional class as interface
d) Avoid multiple Class or Interface

371."The ability of a software product to keep operating over time without failures that renders the system unusable" is called (as per ISO 9126)
a) Portability
b) Maintainability
c) Reliability
d) Efficiency

372."The aptitude of the source code to undergo repair and evolution". Is called (as per ISO 9126)
a) Efficiency
b) Reliability
c) portability
d) Maintainability

373.Examination of code intended to find and fix mistakes overlooked in the initial development phase.
a) Profiling
b) unit testing
c) defect tracking
d) code review

374.What is the ideal time for starting the usage of static analyzers
a) as soon as the coding starts.
b) once all the coding is over
c) along with system testing
d) after unit testing

375.What is the recommended procedure for usage of static analyzers if you have legacy code ? (existing code base)
a) Static analyzer should be run on the legacy code as well
b) No need to run static analyzer on Legacy code base.
c) static analyzer usage is not reccomended in this scenario

d) Static analyzers are supposed to be run on the newly developed LOCs by you.

376.The capability of the software product to avoid unexpected effects from modifications of the software. (ISO 9126) is termed as
a) adaptability
b) portability
c) testability
d) stability

377.public class Foo {
void bar(int a) {
switch (a) {
case 1:
// do something
break;
mylabel: // Violation
break;
default:
break;
}
}
}
What may be the cause of the above violation?
a) The default label should be the last label in a switch statement
b) A non-case label was present in a switch statement
c) Case with no break
d) Non-static initializers are confusing

378.public class Foo {
public void bar() {
int x = 2;
x = x; //Violation
}
}
What is the java coding standard violation that may be thrown on the above code at the highlighted line?
a) Possible unsafe assignment to a non-final static field in a constructor
b) Unused Local Variable
c) Consider simply returning the value vs storing it in local variable ''{0}''
d) Avoid idempotent operations (like assigning a variable to itself)

379.public class Foo {
void bad() {
List foo = getList();
if (foo.size() == 0) {//Violation
// blah
}
}
How the above violation be fixed regarding collection?
a) Perhaps ''{0}'' could be replaced by a local variable
b)Position literals first in String comparisons
c) Substitute calls to size() == 0 (or size() != 0) with calls to isEmpty()
d) Avoid instantiating String objects; this is usually unnecessary

380.The capability of the software product to protect information and data so that unauthorized persons or systems cannot read or modify them and authorized persons or systems are not denied access to them is termed as
a) Security
b) Efficiency
c) Stability
d) Usability Compliance

381.class Foo {
boolean bar(String x) {
  return x.equals("2"); // Violation
}
}
What is the cause of above violation?
 a) Unneccessary Wrapper Object creation
 b) Position literals first in String comparisons
 c) Avoid instantiating String objects; this is usually unnecessary
 d) Do not instantiate a StringBuffer with a char

382.public class Foo {
Object bar;
// bar is data or an action or both?
void bar() {   //Violation
}
}
Reason for the violation at the highlighted line in the code snippet may be due to
a) The field name indicates a constant but its modifiers do not
 b) It is somewhat confusing to have a field name matching the declaring class name
 c) It is somewhat confusing to have a field name with the same name as a method
d) Non-static initializers are confusing

383.public class Foo extends Bar {
int foo;   //Violation
}
Reason for the violation at the highlighted line in the code snippet may be due to
 a) It is somewhat confusing to have a field name matching the declaring class name
 b) It is somewhat confusing to have a field name with the same name as a method
c) The field name indicates a constant but its modifiers do not
 d)Non-static initializers are confusing

384.The Phase in which code review tools / static analyzers are supposed to be used for best results
 a) CUT phase
 b) System Testing
c) Design
 d) Integration Testing

385.public class SampleViolation {
      public copyArray (int[] array) {
         int k =0;
         int length = array.length;
         int[] copy = new int [length];
         for(int i = 1; i < length;i++) {
            copy[i] = array[i]; // VIOLATION
         }
         while(k < length){
          copy[k] = array[k++]; // VIOLATION
         }
      }
   }
What is the reccomended procedure to fix the above violations thrown on coping two arrays
a) Instead of copying data between two arrays, use System.arraycopy method which is efficient.
 b) Do not add empty arrays
 c) Trailing Array Comma
 d) Avoid arraylength in loops

386.A form of static analysis based on the definition and usage of variables
a) Profiling
b) Data Flow Analysis
c) peer review
d) coverage analysis

387.class Foo { void bar(Object x) { if (x != null && x instanceof Bar)// Violation.
What may be the cause of the violation?
a) Reduntant Modifiers
b) Avoid chaining assignment operators
c) No need to check for null before an instanceof
d) Avoid assignments in operands

Topic: WUT

388.Systematically done unit testing can replace system testing. Check the correctness
a) Yes, unit testing can replace system testing in all cases
b) Yes, unit testing can replace sys testing only if it is tool based
c) Yes, unit testing can replace sys testing only if it is JUnit based testing
d) No, unit testing can NOT replace system testing

389.Select the correct statement related to unit testing
a) Systematically done unit testing can replace system testing
d) If code reviews & code inspections are done thoroughly unit testing is NOT required
b) Both Unit testing and System testing are required as they compliment each other
c) In any case either system testing or unit testing is required; but NOT the both

390.Unit testing is required even if code reviews & code inspections are done thoroughly. Check the correctness
a) Above statement is correct only in case of large applications
b) Above statement is correct only in case of small applications
c) Above statement is correct in case of all applications
d) Above statement is NOT correct in case of all applications

391.What is unit testing?
a) Testing each unit of code in an isolation
b) Testing code linewise
c) Testing individual class of code in an isolation
d) None of the above

392.What is the purpose of Data Driven Test (DDT) testing feature?
a)editing of tests to change values in tool generated test cases
b) generation of more number of test so that method can be tested with all possible values
c) Customization of test classes. It allows users to add any number of test classes
d) Parameterization of tests with user defined test data

393.What is the basic intention of performing unit testing?
a) to avoid system testing
b) to avoid system functionality testing
c) to detect problems early in the development stage
d) to avoid regression testing

394.Which of the following is given highest priority while fixing unit testing problems ?
a) Assertion failures
b) Exceptions
c) Timeout errors

d) No prioritization is required

395.What is Code coverage analysis?
a) Process of finding areas of a program NOT exercised by a set of test cases
b) Process of finding failed test cases
c) Process of finding areas of programs throwing errors
d) Process of finding areas of program NOT exercised because of exceptions

396.Which of the below statements is correct regarding Unit testing?
a) Unit tests can be thrown away once the code is tested
b) Unit testing is NOT required if system testing is done with effectiveness
c) Unit testing and System testing compliment each other
d) Unit testing is required only in projects using Agile development process

397.What is considered as fundamental unit of coverage?
a) Type coverage
b) Block coverage
c) Package coverage
d) Test coverage

398.How does calculating and tracking of metrics help?
a) Helps in reducing static analysis effort
b) Helps to identify some of the symptoms of poor design
c) Helps to avoid unit testing
d) None of the above

399.Examine the code coverage for below code.

```
public void testAdd1() throws Throwable {
  int actual1 = Arithmetic.add(338,18);
  assertEquals(356, actual1);
  int actual2 = Arithmetic.add(36, 39);
  assertEquals(75, actual2);
  int actual3 = Arithmetic.add(100, 8);
  assertEquals(108, actual3);
  }
```

a) Full Coverage
b) Partial coverage
c) Not Covered
d) None of the above

400.Which of the following statement is correct with respect to private method in Unit Testing ?
a) Private methods can't be tested during unit testing
b) When a method is declared as "private", it can only be accessed within the same class. So there is no way to test a "private" method of a target class from any test class. So we can write a test case inside target class
c) When a method is declared as "private", it can only be accessed within the same class. So there is no way to test a "private" method of a target class from any test class. You have to perform unit testing manually. Or you have to change your method from "private" to "protected".
d) None of the above

401.Which of the following statement is correct with respect to protected method ?
a) Protected methods can not be tested during unit testing
b) When a method is declared as "protected", it can only be accessed within the same package where the class is defined.In order to test a "protected" method of a target class, you need to define your test class in the same package as the target class.

c) When a method is declared as "protected", it can only be accessed within the same package where the class is defined we can write a test case inside target class.
d) None of the above

402.What are the benefits of Unit Testing?
a) The modular approach during Unit testing eliminates the dependency on other modules during testing.
b) We can test parts of a project with out waiting for the other parts to be available.
c) Designers can identify and fix problem immediately, as the modules are best known to them. This helps in fixing multiple problems simultaneously
d) All of the above

403.Which of the following statement is wrong about unit testing
a) Integration Test is a replacement of Unit testing which will Catch all the Bugs Anyway.
b) Cost of fixing a defect identified during the early stages is less compared to that during later stage. (DOUBT)
c) We can test parts of a project with out waiting for the other parts to be available
d) Designers can identify and fix problem immediately, as the modules are best known to them. This helps in fixing multiple problems simultaneously

404.What is meant by Code Coverage in Unit Testing ?
a) A code coverage tool simply keeps track of which parts of your code get executed and which parts do not.
b) A code coverage tool simply keeps track of pass and failure scenario of test cases.
c) A code coverage tool simply keeps track of which parts of your code has private and protected method.
d) None of the above

405.How a Unit testing framework will be helpful for Unit Testing
a) It helps to skip unit testing and do functional testing directly so as to reduce effort
b)It helps to simplify the process of unit testing by reusable set of libraries or classes that have been developed for a wide variety of languages
c) which helps to test values with boundary conditions
d) None of the above

406.What is Data Driven Testing in Unit Testing ?
a) It is a test approach to test private method in the class
b) It is single test to verify many different test cases by driving the test with input and expected values from an external data source
c) It is a test approach to test protected method in the class
d) It is a test approach to test values with boundary conditions

407.Which of the below statements are true about Data Driven Testing in Unit Test?
1) all input data and expected results for your automated tests are kept in one place, which makes it easier to maintain test cases
2)you can also execute expressions specified in cells of the processed storage (for example, your storage can contain the value of 5+5)
3)After first failure test case remaining test cases will not be executed
a) Both 1 & 2
b) Both 1 & 3
c) Both 2 & 3
d) All three statements

408.How to write a test case for the method add in the below class Sample.

a) public class Sample { private int addInteger(int i, int j){ int sum; sum=i+j; return sum; } }
b) Private methods can't be tested during unit testing
Test case can be written inside target class itself
c) Unit testing needs to be done either manually or test case can be written by changing access modifier "private" to "protected"
d) None of the above

409.protected int addInteger(int i, int j){ int sum; sum=i+j; return sum; }
How a test case can be written for this method?
a) Protected methods can not be tested during unit testing
b) Test case can be written by defining the test class in the same package as the target class.
c) Since protected methods can't be accessed outside the package unit testing needs to be done either manually or test case can be written by changing access modifier "protected" to "public"
d) None of the above

410.public static int Divide (int i1, int i2) { return i1/i2; }
How a test case can be written for this method ?
a) public void testDivide1() throws Throwable { int actual1 = Arithmetic.Divide(1, -2147483648); assertEquals(1, actual1); int actual2 = Arithmetic.Divide(-2147483648, 1); assertEquals(1, actual2); }
b) Test case can't be written since it is static method
c) Test case can't be written since it is public method
d) None of the above

411.How a test case can be written for this method ?
```
public static boolean startsWith(String str,String match){
  for (int i= 0; i < match.length(); ++i) {
   if(str.charAt(i)!= match.charAt(i))
    return false;
    }
    return true;
}
```
a) public void testStartsWith1() throws Throwable { boolean actual1 = Arithmetic.startsWith("853956.85395645", "d R0"); assertEquals(false, actual1); boolean actual2 = Arithmetic.startsWith("853956.85395645", (String) null); assertEquals(true, actual2); }

b) public void testStartsWith1() throws Throwable { boolean actual1 = Arithmetic.startsWith("853956.85395645", "d R0"); assertNotNull(false, actual1); boolean actual2 = Arithmetic.startsWith("853956.85395645", (String) null); assertNotNull(true, actual2); }

c)Test case can't be written since it is static method
d) Test case can't be written since it is public method

412.public class Student { public void setAge(int age) {
  this.Age = age;
}}
How the case can be written for the above bean class method?
a) No need to write a test case for bean class methods
b) public void testSetAge1() throws Throwable { Student student = new Student(); student.setAge(0); student.setAge(1); student.setAge(-1); student.setAge(2147483647); student.setAge(-2147483648); }
c) Bean class methods can not be tested during unit testing
d) None of the above

413.public class TestDb {

```
public String readABC(Connection c,String table_name) throws
SQLException{
  Statement stm=c.createStatement();
  ResultSet  rs=stm.executeQuery("select a from"+table_name);
int a=0;
    a=rs.getInt("a");
   String result;
  result ="  result  "+ a ;
  return result;
}
}
```

How test case can be written for the above method?

a) Test case can't be written since it has Connection object as a parameter

b) Object mocking can be used to write test cases

c) Data Driven Testing can be used to write test cases

d) None of the above

```
414.public class ConstructorExample {
     public static long getFileLength (String path) throws
IOException {
       RandomAccessFile file = new RandomAccessFile (path, "rw");
       return file.length ();
    }
}
```

How a test case can be written for this method ?

a) Test case can't be written for this method

b) Stubs can be used to write test cases

c) Data Driven Testing can be used to write test cases

d) None of the above

```
415.public static List getScores(String team_name) throws
SQLException {
  _loggedCalls.add("getScores: " + team_name);
  prepare();
  List list_scores = new ArrayList();
  Statement stmt = _connection.createStatement();
  ResultSet rs = stmt
    .executeQuery("SELECT * FROM SCORES WHERE
TEAM_NAME='"
      + team_name + "'");
  while (rs.next()) {
   int score = rs.getInt("SCORE");
   list_scores.add(new Integer(score));
  }
  return list_scores;
}
```

How a test case can be written for this method ?

a) Test case can't be written for this method

b) Stubs can be used to write test cases

c) Data Driven Testing can be used to write test cases

d) None of the above

```
416.public static void addsample()
{ int i,j,k;  k=i+j;}
```

How test case can be written for the above method?

a) Test case is not required as there is no functionality in this method affected by external calls

b) Stubs can be used to write test cases

c) Data Driven Testing can be used to write test cases

d) None of the above

417.Which of the following is a framework for Java Unit testing ?

1 JUnit 2 GUnit 3 NUnit 4 Unit++

418.Please identify Java Unit testing tools

1) JDeveloper 2) JTest 3) WiproUT 4)JUnit

2,3,4
1,2,4
All 1,2,3 &4
Only 4

419.
public static int Divide (int i1, int i2) { return i1/i2; }
Please examine the below test case for the above method.
public void testDivide1() throws Throwable {
int actual1 = Arithmetic.Divide(16,8);
assertEquals(2, actual1);
int actual2 = Arithmetic.Divide(18, 1);
assertEquals(1, actual2); }
a) Given test case won't be executed since test case can't be written for static method
b) First assert statement will be passed and second assert will be failed
c) Both assert statement will be passed
d)Test case is not required for this method

420.Ideally, at what stage in the SDLC cycle Unit Testing tool is applicable?
1 CUT phase 2 Testing phase 3 Design phase 4 UAT phase

421.Ideally, Unit Testing tool is supposed to be used by _____
1 only Project Managers 2 All Developers 3 only Test Engineers 4 only Quality Analyst

422.Select the correct statement related to Unit Testing tool
It is a system functionality and regression testing tool
It is a system level control flow testing tool
It is a unit level black-box and white-box testing tool
It is a system level black-box and white-box testing tool

423.What is Function coverage in Unit Testing ?
Checks whether each function (or subroutine) in the program has been called
Checks whether each function (or subroutine) in the program has been returning values
Checks whether each function (or subroutine) in the program has been returned correct data type value
Checks whether each function (or subroutine) in the program returns null value

424.What is Statement coverage in Unit Testing?
Has each node in the program been executed
Checks whether each function (or subroutine) in the program has been called
checks whether the requirements of each branch of each control structure has been met as well as not met
checks whether each boolean sub-expression has evaluated both to true and false

425.What is Decision coverage in Unit Testing?
checks whether the requirements of each branch of each control structure has been met as well as not met
Has each node in the program been executed
Checks whether each function (or subroutine) in the program has been called
checks whether each boolean sub-expression has evaluated both to true and false

426.What is Condition coverage in Unit Testing?
checks whether each boolean sub-expression has evaluated both to true and false
Checks whether each function (or subroutine) in the program has been called
Has each node in the program been executed
checks whether the requirements of each branch of each control structure has been met as well as not met

427.What is the default unit testing framework available in Java Eclipse IDE ?
1NUnit 2 C++Unit 3 JUnit 4 Cactus

428.public static int add (int i1, int i2) {
return i1 + i2;
}
What would be the output for below test suite if add() has the above functionality ?
public void testAdd1() throws Throwable {
int actual1 = Arithmetic.add(1,8);
assertEquals(9, actual1);
int actual2 = Arithmetic.add(1, 8);
assertEquals(9, actual2);
int actual3 = Arithmetic.add(0, 8);
assertEquals(8, actual3);
}
All assert statements will be passed
The given assertEquals() syntax is wrong
Test case will be failed in second assert statement
Parameters given to assertEquals() are wrong

429.How to write best test case for below method by "re-usability test logic" ?
public String getStudentName(Student student){
return student.getName();
}
Test case can't be written since it has user defined object
It can be tested using Object Repository and Data Driven Testing
Test case can be written with normal assertEquals()
TestCase can be written with assertNull()

430.How to ensure condition coverage for below method ?
public static divide (int a, int b){
if(b<=0)
-------- some statement----------
else()
--------some statement----------
}
It should be tested with <= 0 values for a and any values for b.
It should be tested with <= 0 values for b and any values for a.
It should be tested with any values only for b.
It can be tested with any values for a and b.

431.assertTrue(boolean)
asserts that a given condition is true
asserts that a given condition is null
asserts that a given condition is false
asserts that an object is null

432.assertNull(Object)
asserts that an object is null
asserts that a given condition is true
asserts that two objects references the same object
Asserts that a condition is false

433.assertSame(Object, Object)
asserts that two objects references the same object
asserts that an object is null
asserts that a given condition is true
Asserts that a condition is false

434.assertFalse(boolean condition)
Asserts that a condition is false
asserts that two objects references the same object
asserts that an object is null
asserts that a given condition is true