1z0-808

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Passing Score: 800
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Exam A

QUESTION 1
Which statement is true about the `switch` statement?

A. It must contain the default section.
B. The break statement, at the end of each case block, is optional.
C. Its case label literals can be changed at runtime.
D. Its expression must evaluate to a collection of values.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 2
Given the code fragment:

```
public static void main(String[] args) {
    Short s1 = 200;
    Integer s2 = 400;
    Long s3 = (long) s1 + s2;          //line n1
    String s4 = (String) (s3 * s2);    //line n2
    System.out.println("Sum is " + s4);
}
```

What is the result?

A. Sum is 600
B. Compilation fails at line n1.
C. Compilation fails at line n2.
D. A ClassCastException is thrown at line n1.
E. A ClassCastException is thrown at line n2.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 3
What is the name of the Java concept that uses access modifiers to protect variables and hide them within a class?

A. Encapsulation
B. Inheritance
C. Abstraction
D. Instantiation
E. Polymorphism

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:
Using the private modifier is the main way that an object encapsulates itself and hide data from the outside world.
Reference: http://www.tutorialspoint.com/java/java_access_modifiers.htm

QUESTION 4
Given:

```
class Caller {
    private void init () {
        System.out.println("Initialized");
    }

    private void start () {
    init();
    System.out.println("Started");
    }
}

public class TestCall {
    public static void main(String[] args) {
        Caller c = new Caller();
        c.start(); // line n1
        c.init();  // line n2
    }
}
```

What is the result?

A. Compilation fails at line n1.
B. Initialized
   Started
   Initialized
C. Initialized
   Started
D. Compilation fails at line n2.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 5
Given these two classes:

```
public class Customer {
    ElectricAccount acct = new ElectricAccount();

    public void useElectricity(double kWh){
        acct.addKWh(kWh);
    }
}

public class ElectricAccount {
    private double kWh;
    private double rate = 0.07;
    private double bill;

    //line n1
}
```

Any amount of electricity used by a customer (represented by an instance of the Customer class) must contribute to the customer's bill (represented by the member variable bill) through the `useElectricity` method.

An instance of the `Customer` class should never be able to tamper with or decrease the value of the member variable `bill`.

How should you write methods in the `ElectricAccount` class at `line n1` so that the member variable `bill` is always equal to the value of the member variable kwh multiplied by the member variable `rate`?

A.
```
public void addKWh(double kWh) {
    this.kWh += kWh;
    this.bill = this.kWh*this.rate;
}
```

B.
```
public void addKWh(double kWh) {
    if (kWh > 0){
        this.kWh += kWh;
        this.bill = this.kWh * this.rate;
    }
}
```

C.
```
private void addKWh(double kWh) {
    if (kWh > 0) {
        this.kWh += kWh;
        this.bill = this.kWh*this.rate;
    }
}
```

D.
```
public void addKWh(double kWh) {
    if(kWh > 0) {
        this.kWh += kWh;
        setBill(this.kWh);
    }
}
public void setBill(double kWh) {
    bill = kWh*rate;
}
```

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 6
Given the code fragment:

```
public static void main(String[] args) {
    StringBuilder sb = new StringBuilder("Java");
    String s = "Java";

    if (sb.toString().equals(s.toString())) {
        System.out.println("Match 1");
    } else if (sb.equals(s)) {
        System.out.println("Match 2");
    } else {
        System.out.println("No Match");
    }
}
```

What is the result?

A. Match 1
B. Match 2
C. No Match
D. A NullPointerException is thrown at runtime.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 7
Given:

```
interface Readable {
    public void readBook();
    public void setBookMark();
}

abstract class Book implements Readable {    // line n1
    public void readBook() { }
    // line n2
}

class EBook extends Book {                   // line n3
    public void readBook() { }
    // line n4
}
```

And given the code fragment:

Book book1 = new EBook();
book1.readBook();

Which option enables the code to compile?

- A) Replace the code fragment at `line n1` with:
  `class Book implements Readable {`
- B) At `line n2` insert:
  `public abstract void setBookMark();`
- C) Replace the code fragment at `line n3` with:
  `abstract class EBook extends Book {`
- D) At `line n4` insert:
  `public void setBookMark() { }`

A. Option A

B. Option B
C. Option C
D. Option D

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 8
Given the code fragment:

```
int a[] = {1, 2, 3, 4, 5};
for(XXX) {
    System.out.print(a[e]);
}
```

Which option can replace xxx to enable the code to print 135?

A. int e = 0; e <= 4; e++
B. int e = 0; e < 5; e += 2
C. int e = 1; e <= 5; e += 1
D. int e = 1; e < 5; e+=2

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 9
Which statement best describes encapsulation?

A. Encapsulation ensures that classes can be designed so that only certain fields and methods of an object are accessible from other objects.
B. Encapsulation ensures that classes can be designed so that their methods are inheritable.
C. Encapsulation ensures that classes can be designed with some fields and methods declared as abstract.
D. Encapsulation ensures that classes can be designed so that if a method has an argument MyType x, any subclass of MyType can be passed to that method.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 10
Given this class:

```
public class CheckingAccount {
    public int amount;
    public CheckingAccount(int amount){
        this.amount = amount;
    }
    public int getAmount(){ return amount; }
    public void setAmount(int amount){ this.amount = amount; }
    public void changeAmount(int x){
        amount += x;
    }
}
```

And given this `main` method, located in another class:

```
public static void main(String[] args) {
    CheckingAccount acct = new CheckingAccount((int)(Math.random()*1000));
    //line n1
    System.out.println(acct.getAmount());
}
```

Which three lines, when inserted independently at line n1, cause the program to print a 0 balance? (Choose three.)

A. `acct.setAmount(-acct.getAmount());`

B. `acct.amount = 0; <option D earlier>`
C. `acct.setAmount(0);`
D. `acct.getAmount() = 0; <option E earlier>`
E. `this.amount = 0; <option A earlier>`
F. `acct.changeAmount(0); <option F earlier>`
G. `acct.changeAmount(-acct.amount); <option G earlier>`

Correct Answer: BDF
Section: (none)
Explanation

Explanation/Reference:

QUESTION 11
Given the code fragment:

```
String shirts[][] = new String[2][2];
shirts[0][0] = "red";
shirts[0][1] = "blue";
shirts[1][0] = "small";
shirts[1][1] = "medium";
```

Which code fragment prints `red:blue:small:medium`?

A.
```
for (int index = 1; index < 2; index++) {
    for (int idx = 1; idx < 2; idx++) {
        System.out.print(shirts[index][idx] + ":");
    }
}
```

B.
```
for (int index = 0; index < 2; ++index) {
    for (int idx = 0; idx < index; ++idx) {
        System.out.print(shirts[index][idx] + ":");
    }
}
```

C.
```
for (String [] c : shirts) {
    for (String s : c) {
         System.out.print(s + ":");
    }
}
```

D.
```
for (int index = 0; index <=2;) {
    for (int idx = 0; idx <=2;) {
         System.out.print(shirts[index][idx] + ":");
         idx++;
    }
    index++;
}
```

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 12
Given the code fragment:

```
public class Test{

    void readCard(int cardNo) throws Exception {
        System.out.println("Reading Card");
    }

    void checkCard(int cardNo) throws RuntimeException { // line n1
        System.out.println("Checking Card");
    }

    public static void main(String[] args) {
        Test ex = new Test();
        int cardNo = 12344;
        ex.readCard(cardNo);                //line n2
        ex.checkCard(cardNo);               //line n3
    }
}
```

What is the result?

A.
```
Reading Card
Checking Card
```

B. Compilation fails only at `line n1`.

C. Compilation fails only at `line n2`.

D. Compilation fails only at `line n3`.

E. Compilation fails at both line n2 and `line n3`.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 13
Given the code fragment:

```
public static void main(String[] args) {
    Short s1 = 200;
    Integer s2 = 400;
    String s3 = (String) (s1 + s2);    //line n1
    Long s4 = (long) s1 + s2;          //line n2
    System.out.println("Sum is " + s4);
}
```

What is the result?

A. `Sum is 600`
B. Compilation fails at `line n1`.
C. Compilation fails at `line n2`.
D. A `ClassCastException` is thrown at `line n1`.
E. A `ClassCastException` is thrown at `line n2`.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 14
Given the code fragment:

```
public static void main(String[] args) {
    List<String> names = new ArrayList<>();
    names.add("Robb");
    names.add("Bran");
    names.add("Rick");
    names.add("Bran");

    if (names.remove("Bran")) {
        names.remove("Jon");
    }
    System.out.println(names);
}
```

What is the result?

A. [Robb, Rick, Bran]
B. [Robb, Rick]
C. [Robb, Bran, Rick, Bran]
D. An exception is thrown at runtime.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 15
Given:

```
class A {
    public A(){
        System.out.print("A ");
    }
}

class B extends A{
    public B(){                         //line n1
        System.out.print("B ");
    }
}

class C extends B{

    public C(){                         //line n2
        System.out.print("C ");
    }
    public static void main(String[] args) {
        C c = new C();
    }
}
```

What is the result?

A. C B A
B. C
C. A B C
D. Compilation fails at line n1 and line n2

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 16
Given the code fragment:

```
1. public class Test {
2.     public static void main(String[] args) {
3.         /* insert code here */
4.         array[0]=10;
5.         array[1]=20;
6.         System.out.print(array[0]+":"+array[1]);
7.     }
8. }
```

Which code fragment, when inserted at line 3, enables the code to print 10:20?

A.
```
int[] array  = new int[1];
```

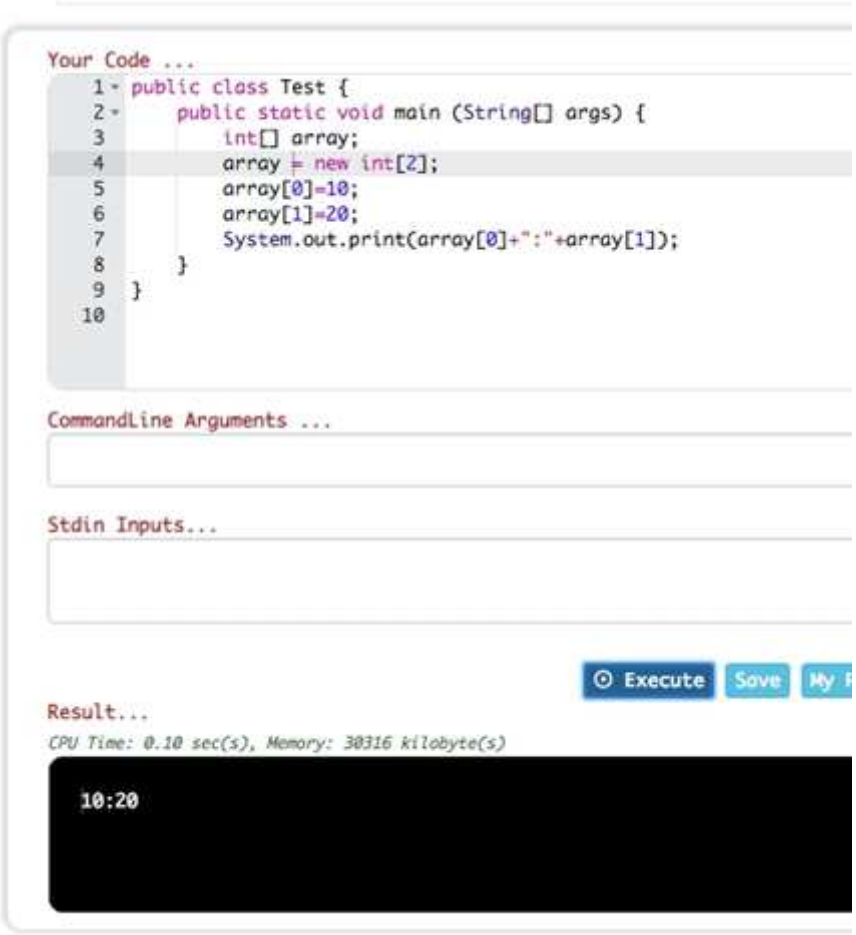
B.
```
int[] array;
array = new int[2];
```

C.
```
int array = new int[2];
```

D.
```
int array[1];
```

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 17
Given the code from the Greeting.Java file:

```
public class Greeting {
    public static void main(String[] args) {
        System.out.println("Hello " + args[0]);
    }
}
```

Which set of commands prints Hello Duke in the console?

A)
```
javac Greeting
java Greeting Duke
```

B)
```
javac Greeting.java Duke
java Greeting
```

C)
```
javac Greeting.java
java Greeting Duke
```

D)
```
javac Greeting.java
java Greeting.class Duke
```


A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: C
Section: (none)

Explanation

Explanation/Reference:

QUESTION 18
Given the code fragment:

```
public static void main(String[] args) {
    int ii = 0;
    int jj = 7;
    for (ii = 0; ii < jj - 1; ii = ii + 2) {
         System.out.print(ii + " ");
     }
}
```

What is the result?

A. 2 4
B. 0 2 4 6
C. 0 2 4
D. Compilation fails

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 19
Given the code fragment:

```
LocalDate date1 = LocalDate.now();
LocalDate date2 = LocalDate.of(6, 20, 2014 );
LocalDate date3 = LocalDate.parse("2014-06-20", DateTimeFormatter.ISO_DATE);
System.out.println("date1 = " + date1);
System.out.println("date2 = " + date2);
System.out.println("date3 = " + date3);
```

Assume that the system date is June 20, 2014. What is the result?

A.
```
date1 = 2014-06-20
date2 = 2014-06-20
date3 = 2014-06-20
```

B.
```
date1 = 06/20/2014
date2 = 2014-06-20
date3 = Jun 20, 2014
```

C. Compilation fails.

D. An exception is thrown at runtime.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 20
Given:

```
public class Test {
      public static void main(String[] args) {
            Test ts = new Test();
            System.out.print(isAvailable + " ");
            isAvailable= ts.doStuff();
            System.out.println(isAvailable);
      }
      public static boolean doStuff() {
            return !isAvailable;
      }
      static boolean isAvailable = false;
}
```

What is the result?

A. Compilation fails.
B. false true
C. true false
D. true true
E. false false

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 21
Given the code fragment:

```
public static void main(String[] args) {
    double discount = 0;
    int qty = Integer.parseInt(args[0]);
    //line n1;
}
```

And given the requirements:

- If the value of the `qty` variable is greater than or equal to 90, `discount = 0.5`
- If the value of the `qty` variable is between 80 and 90, `discount = 0.2`

Which two code fragments can be independently placed at line n1 to meet the requirements? (Choose two.)

☐ A)
```
if (qty >= 90) { discount = 0.5; }
if (qty > 80 && qty < 90) { discount = 0.2; }
```

☐ B)
```
discount = (qty >= 90) ? 0.5 : 0;
discount = (qty > 80) ? 0.2 : 0;
```

☐ C)
```
discount = (qty >= 90) ? 0.5 : (qty > 80)? 0.2 : 0;
```

☐ D)
```
if (qty > 80 && qty < 90) {
    discount = 0.2;
} else {
    discount = 0;
}
if (qty >= 90) {
    discount = 0.5;
} else {
    discount = 0;
}
```

☐ E)
```
discount = (qty > 80) ? 0.2 : (qty >= 90) ? 0.5 : 0;
```

A. Option A
B. Option B

C. Option C
D. Option D
E. Option E

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:

QUESTION 22
Given:

```
public class Test {

    public static void main(String[] args) {
        if (args[0].equals("Hello") ? true : false) {
            System.out.println("Success");
        } else {
            System.out.println("Failure");
        }
    }
}
```

And given the commands:

```
javac Test.java
Java Test Hello
```

What is the result?

A. Success
B. Failure
C. Compilation fails.

D. An exception is thrown at runtime

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 23
Given:

Acc.java:

```
package p1;
public class Acc {
    int p;
    private int q;
    protected int r;
    public int s;
}
```

Test.java:

```
package p2;
import p1.Acc;
public class Test extends Acc {
    public static void main(String[] args) {
        Acc obj = new Test();
    }
}
```

Which statement is true?

A. Both p and s are accessible via obj.
B. Only s is accessible via obj.
C. Both r and s are accessible via obj.

D. p, r, and s are accessible via obj.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 24
Given:

```
System.out.println("5 + 2 = " + 3 + 4);
System.out.println("5 + 2 = " + (3 + 4));
```

What is the result?

A)
```
5 + 2 = 34
5 + 2 = 34
```

B)
```
5 + 2 + 3 + 4
5 + 2 = 7
```

C)
```
7 = 7
7 + 7
```

D)
```
5 + 2 = 34
5 + 2 = 7
```

A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 25
Given the code fragment:

```
public static void main(String[] args) {
    String[][] arr = {{"A", "B", "C"}, {"D", "E"}};
    for (int i = 0; i < arr.length; i++) {
        for (int j = 0; j < arr[i].length; j++) {
            System.out.print(arr[i][j] + " ");
            if (arr[i][j].equals("B")) {
                break;
            }
        }
        continue;
    }
}
```

What is the result?

A. A B C
B. A B C D E
C. A B D E
D. Compilation fails.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 26
Given the code fragment:

```
public static void main(String[] args) {
    String str = " ";
    str.trim();
    System.out.println(str.equals("") + " " + str.isEmpty());
}
```

What is the result?

A. true true
B. true false
C. false false
D. false true

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 27
Given the code fragment:

```
public class App {
    public static void main(String[] args) {
        String str1 = "Java";
        String str2 = new String("java");
        //line n1
        {
            System.out.println("Equal");
        } else {
            System.out.println("Not Equal");
        }
    }
}
```

Which code fragment, when inserted at line n1, enables the App class to print Equal?

A)
```
Str1.toLowerCase();
if (str1 == str2)
```

B)
```
if (str2.equals(str1.toLowerCase()))
```

C)
```
Str1.toLowerCase();
if (str1.equals(str1.toLowerCase()))
```

D)
```
if (str1.toLowerCase() == str2.toLowerCase())
```

A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 28
Given the code fragment:

```
public static void main(String[] args) {
    int[] arr = {1, 2, 3, 4};
    int i = 0;
    do {
        System.out.print(arr[i] + " ");
        i++;
    } while (i < arr.length + 1);
}
```

What is the result?

A. `1 2 3 4`
followed by an `ArrayIndexOutOfBoundsException`
B. `1 2 3`
C. `1 2 3 4`
D. Compilation fails.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 29
Given the definitions of the MyString class and the Test class:

MyString.java:

```
package p1;
class MyString {
    String msg;
    MyString(String msg) {
        this.msg = msg;
    }
}
```

Test.java:

```
package p1;
public class Test {
    public static void main(String[] args) {
        System.out.println("Hello " + new StringBuilder("Java SE 8"));
        System.out.println("Hello " + new MyString("Java SE 8"));
    }
}
```

What is the result?

A.
```
Hello Java SE 8
Hello Java SE 8
```

B.
```
Hello java.lang.StringBuilder@<<hashcode1>>
Hello p1.MyString@<<hashcode2>>
```

C.
```
Hello Java SE 8
Hello p1.MyString@<<hashcode>>
```

D. Compilation fails at the `Test` class

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 30
Given this code for a `Planet` object:

```
public class Planet {
    public String name;
    public int moons;

    public Planet(String name, int moons) {
        this.name = name;
        this.moons = moons;
    }
}
```

And this method:

```
public static void main(String[] args){
    Planet[] planets = {
        new Planet("Mercury", 0),
        new Planet("Venus", 0),
        new Planet("Earth", 1),
        new Planet("Mars", 2)
    };

    System.out.println(planets);
    System.out.println(planets[2].name);
    System.out.println(planets[2].moons);
}
```

What is the output?

A.
```
planets
Earth
1
```

B.
```
[LPlanets.Planet;@15db9742
Earth
1
```

C.
```
[LPlanets.Planet;@15db9742
Planets.Planet@6d06d69c
1
```

D.
```
[LPlanets.Planet;@15db9742
Planets.Planet@6d06d69c
[LPlanets.Moon;@7852e922
```

E.
```
[LPlanets.Planet;@15db9742
Venus
0
```

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 31
Given this array:

```
int[] intArr = {8, 16, 32, 64, 128};
```

Which two code fragments, independently, print each element in this array? (Choose two.)

A.
```
for (int i : intArr) {
    System.out.print(intArr[i] +" ");
}
```

B.
```
for (int i : intArr) {
    System.out.print(i +" ");
}
```

C.
```
for (int i=0 : intArr) {
    System.out.print(intArr[i] +" ");
    i++;
}
```

D.
```
for (int i=0; i < intArr.length; i++) {
    System.out.print(i +" ");
}
```

E.
```
for (int i=0; i < intArr.length; i++) {
    System.out.print(intArr[i] +" ");
}
```

F.
```
for (int i; i < intArr.length; i++) {
    System.out.print(intArr[i] +" ");
}
```

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 32
Given:

```
public class MarkList {
    int num;
    public static void graceMarks(MarkList obj4) {
        obj4.num += 10;
    }
    public static void main(String[] args) {
        MarkList obj1 = new MarkList();
        MarkList obj2 = obj1;
        MarkList obj3 = null;
        obj2.num = 60;
        graceMarks(obj2);
    }
}
```

How many MarkList instances are created in memory at runtime?

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

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 33
Given:

```
public class Triangle {
    static double area;
    int b = 2, h = 3;
    public static void main(String[] args) {
        double p, b, h;        //line n1
        if (area == 0) {
            b = 3;
            h = 4;
            p = 0.5;
        area = p * b * h;      //line n2
        }
        System.out.println("Area is " + area);
    }
}
```

What is the result?

A. Area is 6.0
B. Area is 3.0
C. Compilation fails at line n1
D. Compilation fails at line n2.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 34
Given:

```
public class App {

    public static void main(String[] args) {
        Boolean[] bool = new Boolean[2];

        bool[0] = new Boolean(Boolean.parseBoolean("true"));
        bool[1] = new Boolean(null);

        System.out.println(bool[0] + " " + bool[1]);
    }
}
```

What is the result?

A. True false
B. True null
C. Compilation fails
D. A NullPointerException is thrown at runtime

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 35
Given:

```
public class App {

    String myStr = "7007";

    public void doStuff(String str) {
        int myNum = 0;
        try {
            String myStr = str;
            myNum = Integer.parseInt(myStr);
        } catch (NumberFormatException ne) {
            System.err.println("Error");
        }
        System.out.println(
            "myStr: " + myStr + ", myNum: " + myNum);
    }

    public static void main(String[] args) {
        App obj = new App();
        obj.doStuff("9009");
    }
}
```

What is the result?

A. myStr: 9009, myNum: 9009
B. myStr: 7007, myNum: 7007
C. myStr: 7007, myNum: 9009
D. Compilation fails

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 36
Given the code fragment:

```
int nums1[] = {1, 2, 3};
int nums2[] = {1, 2, 3, 4, 5};
nums 2 = nums 1;
for (int x : nums2){
    System.out.print(x + ":");
}
```

What is the result?

A. 1:2:3:4:5:
B. 1:2:3:
C. Compilation fails.
D. An `ArrayOutOfBoundsException` is thrown at runtime.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 37
Given:

```
public class Product {
    int id;
    String name;
    public Product(int id, String name) {
      this.id = id;
      this.name = name;
    }
}
```

And given the code fragment:

```
4. Product p1 = new Product(101, "Pen");
5. Product p2 = new Product(101, "Pen");
6. Product p3 = p1;
7. boolean ans1 = p1 == p2;
8. boolean ans2 = p1.name.equals(p2.name);
9. System.out.print(ans1 + ":" + ans2);
```

What is the result?

A. true:true
B. true:false
C. false:true
D. false:false

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 38
Given the code fragment:

```
int n [] [] = {{1, 3}, {2, 4 }};
for (int i = n.length-1; i >= 0; i--) {
    for (int y : n[i]) {
        System.out.print (y);
    }
}
```

What is the result?

A. 1324
B. 2313
C. 3142
D. 4231

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 39
Given:

```
class Caller {
    private void init () {
        System.out.println("Initialized");
    }

    private void start () {
    init();
    System.out.println("Started");
    }
}

public class TestCall {
    public static void main(String[] args) {
        Caller c = new Caller();
        c.start();
        c.init();
    }
}
```

What is the result?

A. An exception is thrown at runtime.
B. `Initialized`
   `Started`
   `Initialized`
C. `Initialized`
   `Started`
D. Compilation fails.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 40
Given the code fragment:

```
public static void main(String[] args) {
    try {
        int num = 10;
        int div = 0;
        int ans = nim / div;
    } catch (ArithmeticExeption ae) {
        ans = 0                                    // line n1
    } catch (Exception e) {
        System.out.println("Invalid calculation");
    }
    System.out.println("Answer = " + ans);     // line n2
}
```

What is the result?

A. `Answer = 0`
B. `Invalid calculation`
C. Compilation fails only at `line n1`.
D. Compilation fails only at `line n2`.
E. Compilation fails at `line n1` and `line2`.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 41
Given:

```
public class MyField {
    int x;
    int y;
    public void doStuff(int x, int y) {
        x = x;
        y = this.y;
    }
    public void display () {
        System.out.print(x + " " + y + " : ");
    }
    public static void main(String[] args) {
        MyField m1 = new MyField();
        m1.x = 100;
        m1.y = 200;
        MyField m2 = new MyField();
        m2.doStuff(m1.x, m1.y);
        m1.display();
        m2.display();
    }
}
```

What is the result?

A. 100 200 : 0 0 :
B. 100 200 : 100 0 :
C. 100 200 : 100 200 :
D. 0 0 : 100 0 :

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 42
Given:

```
public class Vowel {
    private char var;
    public static void main(String[] args) {
        char var1 = 'a';
        char var2 = var1;
        var2 = 'e';

        Vowel obj1 = new Vowel();
        Vowel obj2 = obj1;
        obj1.var = 'o';
        obj2.var = 'i';

       System.out.println(var1 + ", " +var2);
       System.out.print(obj1.var + ", " + obj2.var);
    }
}
```

What is the result?

A. a, e
   i, i
B. a, e
   o, o

C.
```
e, e
i, i
```
D.
```
a, a
o, o
```

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 43
Given the code fragment:

```
if (aVar++ < 10) {
    System.out.println(aVar + " Hello Universe!");
} else {
    System.out.println(aVar + " Hello World!");
}
```

What is the result if the integer aVar is 9?

A. Compilation fails.
B. `10 Hello Universe!`
C. `10 Hello World!`
D. `9 Hello World!`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 44
Which statement will empty the contents of a StringBuilder variable named sb?

A. sb. deleteAll ();
B. sb. delete (0, sb. size ());
C. sb. delete (0, sb. length ());
D. sb. removeAll ();

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 45
Which statement is true about the switch statement?

A. It must contain the default section.
B. The break statement, at the end of each case block, is mandatory.
C. Its case label literals can be changed at runtime.
D. Its expression must evaluate to a single value.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Reference: http://www.dummies.com/programming/java/switch-statements-in-java/

QUESTION 46
Given the code fragment:

```
class Employee {
   private String name;
   private int age;
   private int salary;

   public Employee (String name, int age) {
       setName (name)
       setAge (age)
       setSalary (2000);
   }
   public Employee (String name, int age, int salary) {
       setSalary (salary);
       this (name, age);
   }
   //getter and setter methods for attributes go here
   public void printDetails () {
       System.out.println (name + " : " + age + " : " + salary);
   }
}
```

Test.java

```
class Test {
    public static void main(String[] args) {
        Employee e1 = new Employee();
        Employee e2 = new Employee("Jack", 50);
        Employee e3 = new Employee("Chloe", 40, 5000);

        e1.printDetails();
        e2.printDetails();
        e3.printDetails();
    }
}
```

Which is the result?

A. Compilation fails in the `Employee` class.

B.
```
null : 0: 0
Jack : 50 : 0
Chloe : 40 : 5000
```

C.
```
null : 0 : 0
Jack : 50 : 2000
Chloe : 40 : 5000
```

D. Compilation fails in the `Test` class.

E. Both the `Employee` class and the `Test` class fail to compile.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 47
Given the code fragments:

A.java:

```
package p1;
public class A {
}
```

B.java:

```
package p1.p2;
//line n1
public class B {
    public void doStuff() {
        A b = new A();
    }
}
```

C.java:

```
package p3;
//line n2
public class C {
    public static void main(String[] args) {
        A o1 = new A();
        B o2 = new B();
    }
}
```

Which modification enables the code to compile?

A. Replace line n1 with:
   `import p1.*;`
   Replace line n2 with:
   `import p1. p2.*;`

B.
```
Replace line n1 with:
import p1. A;
Replace line n2 with:
import p1.*;
```

C.
```
Replace line n1 with:
import p1. A;
Replace line n2 with:
import p1. A;
import p1. p2.B ;
```

D.
```
Replace line n1 with:
import p1;
Replace line n2 with:
import p1;
import p1. p2;
```

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 48
Which three statements are true about the structure of a Java class? (Choose three.)

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

Correct Answer: ACE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 49
Given:

```
public class App {
    int count;
    public static void displayMsg () {
        count++;                                          // line n1
    System.out.println ("Welcome "+"Visit Count: "+count); // line n2
    }
    public static void main (String [] args) {
        App.displayMsg ();                                // line n3
        App.displayMsg ();                                // line n4
    }
}
```

What is the result?

A. `Compilation fails at line n3 and line n4.`
B. `Compilation fails at line n1 and line n2.`
C. `Welcome Visit Count:1`
   `Welcome Visit Count: 1`
D. `Welcome Visit Count:1`
   `Welcome Visit Count: 2`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 50
Given the code fragment:

```
public class Person {
    String name;
    int age = 25;

    Person(String name) {                          // line n1
        setName(name);
    }

    public Person(String name, int age) {
        Person(name);                               // line n2
        setAge(age);
    }

    //setter and getter methods go here


    public String show() {
        return name + " " + age;
    }

    public static void main(String[] args) {
        Person p1 = new Person("Jesse");
        Person p2 = new Person("Walter",52);
        System.out.println(p1.show());
        System.out.println(p2.show());
    }
}
```

What is the result?

A. Compilation fails at both line n1 and line n2.

B. Compilation fails only at line n2.
C. Compilation fails only at line n1.
D. Jesse 25
Walter 52

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 51
Given the code fragment:

```
public static void main(String[] args) {
    ArrayList<Integer> points = new ArrayList<>();
    points.add(1);
    points.add(2);
    points.add(3);
    points.add(4);
    points.add(null);
    points.remove(1);
    points.remove(null);
    System.out.println(points);
}
```

What is the result?

A. A NullPointerException is thrown at runtime.
B. [1, 2, 4]
C. [1, 2, 4, null]

D. [1, 3, 4, null]
E. [1, 3, 4]
F. Compilation fails.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 52
Which two code fragments cause a compilation error? (Choose two.)

A.
```
float flt = 100.00F;
```
B.
```
float flt = (float) 1_11.00;
```
C.
```
Float flt = 100.00;
```
D.
```
double y1 = 203.22;
float flt = y1;
```
E.
```
int y2 = 100;
float flt = (float) y2 ;
```

Correct Answer: AD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 53
Given:

```
public class Fieldinit {
    char c;
    boolean b;
    float f;
    void printAll() {
        System.out.println ("c = " + c);
        System.out.println ("b = " + b);
        System.out.println ("f = " + f);
    }
    public static void main (String [] args) {
        FieldInit f = new FieldInit ();
        f.printAll ();
    }
}
```

What is the result?

A.
```
c=
b = false
f = 0.0
```

B.
```
c= null
b = true
f = 0.0
```

C.
```
c=0
b = false
f = 0.0f
```

D.
```
c= null
b = false
f = 0.0F
```

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 54
Which three statements are true about exception handling? (Choose three.)

A. Only unchecked exceptions can be rethrown.
B. All subclasses of the `RuntimeException` class are not recoverable.
C. The parameter in a catch block is of `Throwable` type.
D. All subclasses of the `RuntimeException` class must be caught or declared to be thrown.
E. All subclasses of the `RuntimeException` class are unchecked exceptions.
F. All subclasses of the Error class are not recoverable.

Correct Answer: BCD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 55
Given the code fragment:

```
public static void main(String[] args) {
    String myStr = "Hello World ";
    myStr.trim();
    int i1 = myStr.indexOf(" ");
    System.out.println(i1);
}
```

What is the result?

A. An exception is thrown at runtime.
B. -1
C. 5
D. 10

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 56
Which two statements are true? (Choose two.)

A. Error class is unextendable.
B. Error class is extendable.
C. Error is a RuntimeException.
D. Error is an Exception.
E. Error is a Throwable.

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 57

Given the code fragment:

```
public static void main(String[] args) {
    int data[] = {2010, 2013, 2014, 2015, 2014};
    int key = 2014;
    int count = 0;
    for (int e: data) {
        if (e != key) {
            continue;
            count++;
        }
    }
    System.out.print(count + " Found");
}
```


What is the result?

A. Compilation fails.
B. 0 Found
C. 1 Found
D. 3 Found

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 58
Given:

```
public class Test {
    public static final int MIN = 1;
    public static void main(String[] args) {
        int x = args.length;
        if(checkLimit(x)){      // line n1
            System.out.println("Java SE");
        } else {
            System.out.println("Java EE");
        }
    }
    public static boolean checkLimit(int x) {
        return (x >= MIN) ? true : false;
    }
}
```

And given the commands:

```
javac Test.java
java Test 1
```

What is the result?

A. Java SE
B. Java EE
C. Compilation fails at line n1.
D. A NullPointerException is thrown at runtime.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 59
Given the code fragment:

```
24. float var1 = (12_345.01 <= 123_45.00) ? 12_456 : 124_56.02f;
25. float var2 = var1 + 1024;
26. System.out.print(var2);
```

What is the result?

A. An exception is thrown at runtime.
B. Compilation fails.
C. 13480.0
D. 13480.02

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 60
Given:

```
class C2 {
    public void displayC2() {
        System.out.print("C2");
    }
}
interface I {
    public void displayI();
}
class C1 extends C2 implements I {
    public void displayI() {
        System.out.print("C1");
    }
}
```

And given the code fragment:

```
C2 obj1 = new C1();
I obj2 = new C1();

C2 s = obj2;
I t = obj1;

t.displayI();
s.displayC2()
```

What is the result?

A. C2C2

B. C1C2
C. C1C1
D. Compilation fails

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 61
Given:

```
package clothing;
public class Shirt {
     public static String getColor() {
          return "Green";
     }
}
```

Given the code fragment:

```
package clothing.pants;
// line n1
public class Jeans {
    public void matchShirt(){
         // line n2
         if(color.equals("Green")) {
             System.out.print("Fit");
         }
    }
    public static void main(String[] args) {
        Jeans trouser = new Jeans();
        trouser.matchShirt();
    }
}
```

Which two sets of actions, independently, enable the code fragment to print `Fit`?

A. At line n1 insert: `import clothing.Shirt;`
   At line n2 insert: `String color = Shirt.getColor();`
B. At line n1 insert: `import clothing;`
   At line n2 insert: `String color = Shirt.getColor();`
C. At line n1 insert: `import static clothing.Shirt.getColor;`
   At line n2 insert: `String color = getColor();`
D. At line n1 no changes required.
   At line n2 insert: `String color = Shirt.getColor();`
E. At line n1 insert: `import Shirt;`
   At line n2 insert: `String color = Shirt.getColor();`

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 62
Given the code fragments:

```
class Student {
      String name;
      int age;
}
```

And:

```
4.public class Test {
5.   public static void main(String[] args) {
6.        Student s1 = new Student();
7.        Student s2 = new Student();
8.        Student s3 = new Student();
9.        s1 = s3;
10.       s3 = s2;
11.       s2 = null;
12.  }
13.}
```

Which statement is true?

A. After line 11, three objects are eligible for garbage collection.
B. After line 11, two objects are eligible for garbage collection.
C. After line 11, one object is eligible for garbage collection.
D. After line 11, none of the objects are eligible for garbage collection.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 63
Given the code fragment:

```
int wd = 0;
String days[] = ("sun", "mon", "wed", "sat");
for (String s:days) {
    switch (s) {
        case "sat":
        case "sun":
            wd -= 1:
            break;
        case "mon":
            wd++;
        case "wed":
            wd += 2;
    }
}
System.out.println(wd);
```

What is the result?

A. 3
B. 4
C. -1
D. Compilation fails.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 64
Given the code fragment:

```
public static void main(String[] args) {
      LocalDate date = LocalDate.of(2012, 01, 32);
      date.plusDays(10);
      System.out.println(date);
}
```

What is the result?

A. `2012-02-10`
B. `2012-02-11`
C. Compilation fails
D. A `DateTimeException` is thrown at runtime.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 65
Given:

```
interface Downloadable {
      public void download();
}

interface Readable extends Downloadable {         // line n1
      public void readBook();
}

abstract class Book implements Readable {         // line n2
      public void readBook() {
            System.out.println("Read Book");
      }
}

class EBook extends Book {                    // line n3
      public void readBook() {
            System.out.println("Read E-Book");
      }
}
```

And given the code fragment:

```
Book book1 = new EBook();
book1.readBook();
```

What is the result?

A. Compilation fails at line n2.
B. Read Book
C. Read E-Book
D. Compilation fails at line n1.
E. Compilation fails at line n3.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:

QUESTION 66
Given this class:

```
public class Rectangle {
      private double length;
      private double height;
      private double area;

      public void setLength(double length) {
            this.length = length;
      }
      public void setHeight(double height) {
            this.height = height;
      }
      public void setArea() {
            area = length*height;
      }
}
```

Which two changes would encapsulate this class and ensure that the area field is always equal to `length * height` whenever the Rectangle class is used?

A. Call the setArea method at the end of the setHeight method.
B. Call the setArea method at the beginning of the setHeight method.
C. Call the setArea method at the end of the setLength method.
D. Call the setArea method at the beginning of the setLength method.
E. Change the setArea method to private.
F. Change the area field to public.

Correct Answer: AC
Section: (none)
Explanation

Explanation/Reference:

QUESTION 67
Given the code fragment:

```
public static void main (String[] args) {
      String[] arr = ("Hi", "How", "Are", "You");
      List<String> arrList = new ArrayList<>(Arrays.asList(arr);
      if (arrList.removeIf((String s) -> (return s.length() <= 2;))) {
            System.out.println(s + "removed")'
      }
}
```

What is the result?

A. Compilation fails.
B. Hi removed
C. An UnsupportedOperationException is thrown at runtime.
D. The program compiles, but it prints nothing.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 68
Which two class definitions fail to compile? (Choose two.)

A.
```
abstract class A3 {
     private static int i;
     public void doStuff(){}
     public A3(){}
}
```

B.
```
final class A1 {
     public A1(){}
}
```

C.
```
private class A2 {
    private static int i;
    private A2(){}
}
```

D.
```
class A4 {
    protected static final int i = 10;
    private A4() {}
}
```

E.
```
final abstract class A5 {
     protected static int i;
     void doStuff(){}
     abstract void doIt();
}
```

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 69
Given:

```
class Student {
      String name;
      public Student(String name) {
            this.name = name;
      }
}

public class Test {
      public static void main(String[] args) {
            Student[] students = new Student[3];
            students[1] = new Student("Richard");
            students[2] = new Student("Donald");
            for (Student s : students) {
                  System.out.println("" + s.name);
            }
      }
}
```

What is the result?

A. `null`
   `Richard`
   `Donald`
B. `Richard`
   `Donald`
C. Compilation fails.
D. An `ArrayIndexOutOfBoundsException` is thrown at runtime.
E. A `NullPointerException` is thrown at runtime.

Correct Answer: E

Section: (none)
Explanation

Explanation/Reference:

QUESTION 70
This grid shows the state of a 2D array:

0	0	
	X	0
X		X

The grid is created with this code:

```
char[][] grid = new char[3][3];
grid[1][1] = 'X';
grid[0][0] = '0';
grid[2][0] = 'X';
grid[0][1] = '0';
grid[2][2] = 'X';
grid[1][2] = '0';
//line n1
```

Which line of code, when inserted in place of //line n1, adds an X into the grid so that the grid contains three consecutive XS?

A. grid[2][1] = 'X';
B. grid[3][2] = 'X';
C. grid[3][1] = 'X';
D. grid[2][3] = 'X';

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 71
Given the code fragment:

```
4. class X {
5.     public void printFileContent() {
6.         /* code goes here */
7.         throw new IOException();
8.     }
9. }
10. public class Test {
11.     public static void main(String[] args) {
12.         X xobj = new X();
13.         xobj.printFileContent();
14.     }
15. }
```

Which two modifications should you make so that the code compiles successfully? (Choose two.)

A. Replace line 13 with:

```
try {
    xobj.printFileContent();
}
catch(Exception e) { }
catch(IOException e) { }
```

B. Replace line 7 with `throw IOException ("Exception raised");`
C. Replace line 11 with `public static void main(String[]) args) throws Exception {`
D. At line 14, insert `throw new IOException();`
E. Replace line 5 with `public void printFileContent() throws IOException {`

Correct Answer: CE
Section: (none)
Explanation

Explanation/Reference:

QUESTION 72
Given the code fragment:

```
public static void main(String[] args) {
    int[][] arr = new int[2][4];

    arr[0] = new int[]{1, 3, 5, 7};
    arr[1] = new int[]{1, 3};

    for (int[] a : arr) {
        for (int i=0; i < arr.length; i++) {
            System.out.print(a[i] + " ");
        }
        System.out.println();
    }
}
```

What is the result?

A. 1 3 5 7
   1 3
B. 1 3
   1 3
C. 1 3
   1 3 0 0
D. 1 3
   followed by an `ArrayIndexOutOfBoundsException`
E. Compilation fails.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
1  class Main {
2    public static void main(String[] args) {
3      int[][] arr = new int[2][4];
4
5      arr[0] = new int[] {1, 2, 3, 5, 7};
6      arr[1] = new int[] {1, 3};
7
8      for (int[] a : arr) {
9        for (int i=0; i <arr.length; i++){
10         System.out.print (a[i] + " ");
11       }
12       System.out.println();
13     }
14     }
```

```
Java(TM) SE Runtime Environment (build 1.8.0_31-b13)
Java HotSpot(TM) 64-Bit Server VM (build 25.31-b07, mixed mode)
› javac -classpath .:/run_dir/junit-4.12.jar:/run_dir/hamcrest-c
ore-1.3.jar:/run_dir/json-simple-1.1.1.jar -d . Main.java
› java -classpath .:/run_dir/junit-4.12.jar:/run_dir/hamcrest-co
re-1.3.jar:/run_dir/json-simple-1.1.1.jar Main
1 2
1 3
```

QUESTION 73
Which is true about the `switch` statement?

A. Its expression can evaluate to a collection of values.
B. The `break` statement, at the end of each case block, is optional.
C. Its `case` label literals can be changed at runtime.
D. It must contain the `default` section.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.geeksforgeeks.org/switch-statement-in-java/

QUESTION 74
Given the code fragment:

```
int n[][] = {{1, 3}, {2, 4}};
for (int i = n.length - 1; i >= 0; i--) {
    for (int j = n[i].length - 1; j >= 0; j--) {
        System.out.print(n[i][j]);
    }
}
```

What is the result?

A. 3142
B. 2413
C. 1324
D. 4231

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 75
Given:

```
public class Test {
    int x, y;

    public Test(int x, int y) {
        initialize(x, y);
    }

    public void initialize(int x, int y) {
        this.x = x * x;
        this.y = y * y;
    }

    public static void main(String[] args) {
        int x = 9, y = 5;
        Test obj = new Test(x, y);
        System.out.println(x + " " + y);
    }
}
```

What is the result?

A. 9 5
B. 81 25
C. Compilation fails.
D. 0 0

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 76
Given the code fragments:

```
interface Exportable {
     void export();
}

class Tool implements Exportable {
    public void export() {                    // line n1
        System.out.println("Tool::export");
    }
}

class ReportTool extends Tool {

    void export() {                           // line n2
        System.out.println("RTool::export");
    }

    public static void main(String[] args) {
        Tool aTool = new ReportTool();
        Tool bTool = new Tool();
        callExport(aTool);
        callExport(bTool);
    }

    public static void callExport(Exportable ex)  {
        ex.export();
    }
}
```

What is the result?

A. Compilation fails only at line n1.
B. Compilation fails only at line n2.
C. `Tool::export`
   `Tool::export`
D. Compilation fails at both line n1 and line2.
E. `RTool::export`

```
Tool::export
```

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:

QUESTION 77
Given the code snippet from a compiled Java source file:

```
public class MyFile
{
    public static void main (String[] args)
    {
        String arg1 = args[0];
        String arg2 = args[1];
        String arg3 = args[2];
        System.out.println("Arg is " + arg3);
    }
}
```

and this output:

```
Arg is 2
```

Which command should you run to obtain this output?

A. `java MyFile  2`
B. `java MyFile  1 2 3 4`
C. `java MyFile  1 2 2`
D. `java MyFile  2 2`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 78
Given the code fragment:

```
int wd = 0;
String days[] = {"sun", "mon", "wed", "sat"};
for (String s:days) {
    switch (s) {
        case "sat":
        case "sun":
            wd -= 1;
            break;
        case "mon":
            wd -= 1;
            break;
        case "wed":
            wd += 2;
    }
}
System.out.println(wd);
```

What is the result?

A. 3
B. 0
C. Compilation fails.
D. -1

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 79
Given the code fragment:

```
String[] arr = {"Hi", "How", "Are", "You"};
List<String> arrList = new ArrayList<>(Arrays.asList(arr));
if(arrList.removeIf(s -> { System.out.print(s); return s.length()<=2;} )){
System.out.println(" removed");
}
```

What is the result?

A. Compilation fails.
B. The program compiles, but it prints nothing.
C. `HiHowAreYou removed`
D. An `UnsupportedOperationException` is thrown at runtime.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 80
Given the code fragment:

```
public static void main(String[] args) {
    String names[] = {"Thomas", "Peter", "Joseph"};
    String pwd[] = new String[3];
    int idx = 0;
    try {
        for (String n : names) {
            pwd[idx] = n.substring(2, 6);
            System.out.println(pwd[idx]);
            idx++;
        }
    }
    catch(Exception e) {
        System.out.println("Invalid Name");
    }
}
```

What is the result?

A.
```
omas
Invalid Name
null
```

B.
```
omas
ter
seph
```

C.
```
Invalid Name
```

D.
```
omas
Invalid Name
```

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 81
Given:

```
interface I {
    public void displayI();
}
abstract class C2 implements I {
    public void displayC2() {
        System.out.print("C2");
    }
}
class C1 extends C2  {
    public void displayI() {
        System.out.print("C1");
    }
}
```

And the code fragment:

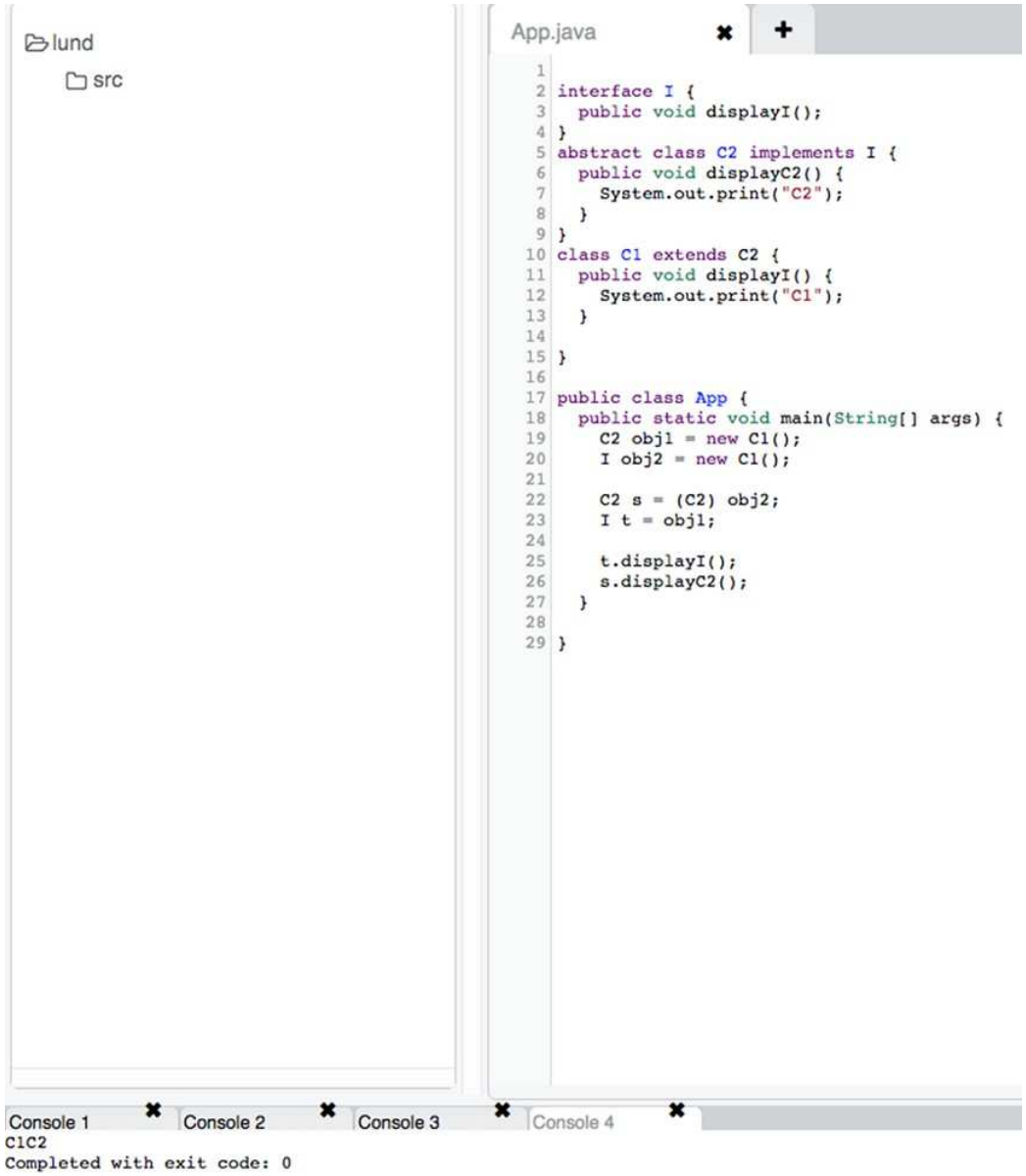
```
C2 obj1 = new C1();
I obj2 = new C1();

C2 s = (C2) obj2;
I t = obj1;

t.displayI();
s.displayC2();
```

What is the result?

A. C1C2
B. C1C1
C. Compilation fails.
D. C2C2

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 82

Given the code fragment:

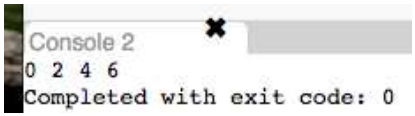
```
public static void main(String[] args) {
    int ii = 0;
    int jj = 7;
    for (ii = 0; ii < jj; ii = ii + 2) {
        System.out.print(ii + " ");
     }
}
```

What is the result?

A. 2 4
B. 0 2 4 6
C. 0 2 4
D. Compilation fails.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 83
Given the code fragment:

```
int[] array = {1, 2, 3, 4, 5};
```

And given the requirements:
1. Process all the elements of the array in the reverse order of entry.

2. Process all the elements of the array in the order of entry.
3. Process alternating elements of the array in the order of entry.

Which two statements are true? (Choose two.)

A. Requirements 1, 2, and 3 can be implemented by using the enhanced for loop.
B. Requirements 1, 2, and 3 can be implemented by using the standard for loop.
C. Requirements 2 and 3 CANNOT be implemented by using the standard for loop.
D. Requirement 2 can be implemented by using the enhanced for loop.
E. Requirement 3 CANNOT be implemented by using either the enhanced for loop or the standard for loop.

Correct Answer: BC
Section: (none)
Explanation

Explanation/Reference:

QUESTION 84
Given:

```
public class Test {

    public static void main(String[] args) {

        String[][] chs = new String[5][2];
        chs[0] = new String[2];
        chs[1] = new String[5];
        int i = 97;

        for (int a = 0; a < chs.length; a++) {
            for (int b = 0; b < chs.length; b++) {
                chs[a][b] = "" + i;
                i++;
            }
        }

        for (String[] ca : chs) {
            for (String c : ca) {
                System.out.print(c + " ");
            }
            System.out.println();
        }
    }
}
```

What is the result?

A. 97 98
   99 100 null null null
B. 97 98

99 100 101 102 103

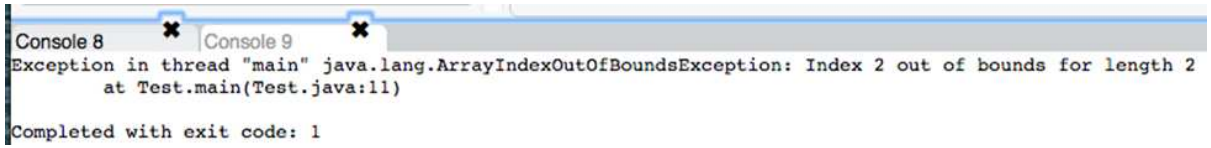
C. Compilation fails.

D. A NullPointerException is thrown at runtime.

E. An ArraylndexOutOfBoundsException is thrown at runtime.

Correct Answer: E
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 85
Given the code fragment:

```
public class App {
    public static void main(String[] args) {
        String str1 = "Java";
        String str2 = new String("java");
        //line n1
        {
           System.out.println("Equal");
        } else {
           System.out.println("Not Equal");
        }
    }
}
```

Which code fragment, when inserted at line n1, enables the App class to print Equal?

```
A) Str1.toLowerCase();
   if (str1 == str2)

B) if (str2.equals(str1.toLowerCase()))

C) Str1.toLowerCase();
   if (str1.equals(str2))

D) if (str1.toLowerCase() == str2.toLowerCase())
```

A. Option A
B. Option B
C. Option C
D. Option D

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 86
Given the code fragment:

```
public static void main(String[] args) {
    String[][] arr = {{"A", "B", "C"}, {"D", "E"}};
    for (int i = 0; i < arr.length; i++) {
        for (int j = 0; j < arr[i].length; j++) {
            System.out.print(arr[i][j] + " ");
            if (arr[i][j].equals("B")) {
                continue;
            }
        }
        continue;
    }
}
```

What is the result?

A. A B C
B. A B C D E
C. A B D E
D. Compilation fails.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 87
Given the code fragment:

```
class Employee {
    private String name;
    private int age;
    private int salary;


    public Employee(String name, int age) {
        setName(name);
        setAge(age);
        setSalary(2000);
    }


    public Employee(String name, int age, int salary) {
        this(name, age);
        setSalary(salary);
    }


    //getter and setter methods for attributes go here

    public void printDetails() {
        System.out.println(name + " : " + age + " : " + salary);
    }
}
```

Test.java:

```
class Test {
    public static void main(String[] args) {
        Employee e1 = new Employee();
        Employee e2 = new Employee("Jack", 50);
        Employee e3 = new Employee("Chloe", 40, 5000);

        e1.printDetails();
        e2.printDetails();
        e3.printDetails();
    }
}
```

Which is the result?

A. Compilation fails in the `Employee` class.

B.
```
null : 0: 0
Jack : 50 : 0
Chloe : 40 : 5000
```

C.
```
null : 0 : 0
Jack : 50 : 2000
Chloe : 40 : 5000
```

D. Compilation fails in the `Test` class.

E. Both the `Employee` class and the `Test` class fail to compile.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 88
Given:

```
public class SumTest {

    public static void doSum(Integer x, Integer y) {
        System.out.println("Integer sum is " + (x + y));
    }

    public static void doSum(double x, double y) {
        System.out.println("double sum is " + (x + y));
    }

    public static void doSum(float x, float y) {
        System.out.println("float sum is " + (x + y));
    }

    public static void main(String[] args) {
        doSum(10, 20);
        doSum(10.0, 20.0);
    }
}
```

What is the result?

A.
```
float sum is 30.0
double sum is 30.0
```

B.
```
double sum is 30.0
float sum is 30.0
```

C.
```
Integer sum is 30
double sum is 30.0
```

D.
```
Integer sum is 30
float sum is 30.0
```

Correct Answer: A
Section: (none)

Explanation

Explanation/Reference:

QUESTION 89
Given the code fragment:

```
3. public static void main(String[] args) {
4.       int x = 6;
5.       while (isAvailable(x)) {
6.           System.out.print(x);
7.
8.       }
9. }
10.
11. public static boolean isAvailable(int x) {
12.     return --x > 0 ? true : false;
13. }
```

Which modification enables the code to print 54321?

A. Replace line 6 with `System.out.print (--x);`
B. At line 7, insert `x --;`
C. Replace line 5 with `while (is Available(--x)) {`
D. Replace line 12 with `return (x > 0) ? false : true;`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 90
Given:

```
class A {
    public void test() {
        System.out.println("A ");
    }
}

class B extends A {
    public void test() {
        System.out.println("B ");
    }
}

public class C extends A {
    public void test() {
        System.out.println("C ");
    }

    public static void main(String[] args) {
        A b1 = new A();
        A b2 = new C();
        A b3 = (B) b2;              //line n1
        b1 = (A) b2;                //line n2
        b1.test();
        b3.test();
    }
}
```

What is the result?

A. A
   B

B. A
   C

C. C

C

D. A `ClassCastException` is thrown only at `line n1`.

E. A `ClassCastException` is thrown only at `line n2`.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 91
Given:

Base.java:

```
class Base {
    public void test(){
        System.out.println("Base ");
    }
}
```

DerivedA.java:

```
class DerivedA extends Base {
    public void test(){
        System.out.println("DerivedA ");
    }
}
```

DerivedB.java:

```
class DerivedB  extends DerivedA {
    public void test(){
        System.out.println("DerivedB ");
    }
    public static void main(String[] args) {
        Base b1 = new DerivedB();
        Base b2 = new DerivedA();
        Base b3 = new DerivedB();
        Base b4 = b3;
        b1 = (Base) b2;
        b1.test();
        b4.test();
    }
}
```

What is the result?

A. `Base`
`DerivedA`

B. `Base`
`DerivedB`

C. `DerivedB`
`DerivedB`

D. DerivedB
DerivedA

E. A `ClassCastException` is thrown at runtime.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 92
Given the definitions of the MyString class and the Test class:

```
package p1;
class MyString {
    String msg;
    MyString(String msg) {
        this.msg = msg;
    }
}
```

Test.java:

```
package p1;
public class Test {
    public static void main(String[] args) {
        System.out.println("Hello " + new StringBuilder("Java SE 8"));
        System.out.println("Hello " + new MyString("Java SE 8").msg);
    }
}
```

What is the result?

A.
```
Hello Java SE 8
Hello Java SE 8
```

B.
```
Hello java.lang.StringBuilder@<<hashcode1>>
Hello p1.MyString@<<hashcode2>>
```

C.
```
Hello Java SE 8
Hello p1.MyString@<<hashcode>>
```

D. Compilation fails at the `Test` class

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 93
Given:

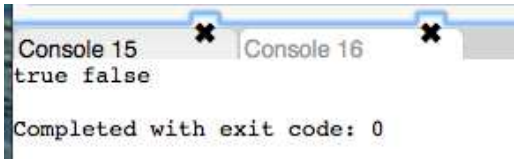
```
public class Test {
    public static void main(String[] args) {
        Test ts = new Test();
        System.out.print(isAvailable + " ");
        isAvailable= ts.doStuff();
        System.out.println(isAvailable);
    }
    public static boolean doStuff() {
        return !isAvailable;
    }
    static boolean isAvailable = true;
}
```

What is the result?

A. Compilation fails.
B. `false true`
C. `true false`
D. `true true`
E. `false false`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 94
Given:

```
public static void main(String[] args) {
    String ta = "A ";
    ta = ta.concat("B ");
    String tb = "C ";
    ta = ta.concat(tb);
    ta.replace("B","C");
    ta = ta.concat("D");
    System.out.println(ta);
}
```

What is the result?

A. A B C D
B. A C D

C. A C D D
D. A B C C
E. A B D C

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```java
public class Alpha {
    public static void main (String[] args) {
        String ta = "A ";
        ta = ta.concat ("B ");
        String tb = "C ";
        ta = ta.concat (tb);
        ta.replace ("B","C");
        ta = ta.concat ("D");
        System.out.println(ta);
    }
}
```

Execute Mode, Version, Inputs & Arguments

JDK 11.0.4

CommandLine Arguments

Result

CPU Time: 0.12 sec(s), Memory: 32196 kilobyte(s)

```
A B C D
```

QUESTION 95

Given the definitions of the `Bird` class and the `Peacock` class:

```
public class Bird {
    public void fly() {
        System.out.print ("Fly.");
    }
}

public class Peacock extends Bird {
    public void dance() {
        System.out.print("Dance.");
    }
}
```

and the code fragment:

```
/*insert code snippet here */
p.fly();
p.dance();
```

Which code snippet can be inserted to print Fly.Dance. ?

A. `Bird p = new Peacock();`

B.
```
Bird b = new Bird();
Peacock p = (Peacock) b;
```

C.
```
Peacock b = new Peacock ();
Bird p = (Bird) b;
```

D.
```
Bird b = new Peacock ();
Peacock p = (Peacock) b;
```

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 96
Given the code fragment:

```
int x = 10;
int y = ++x;
int z = 0;
if (y >= 10 | y <= ++x) {
    z = x;
} else {
    z = x++;
}
System.out.println(z);
```

What is the result?

A. 11
B. 10
C. 12
D. A compile time error occurs.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Result

CPU Time: 0.14 sec(s), Memory: 32028 kilobyte(s)

QUESTION 97
Given the code fragment:

```
int a = 3;
int b = 2;
int c = 1;
int r1 = a * b / c + 1;
int r2 = a / b * c + 1;
int r3 = a * (b / (c + 1));
System.out.println(r1 + " : " + r2 + " : " + r3);
```

What is the result?

A. `2 : 7 : 3`
B. `7 : 7 : 9`
C. `2 : 7 : 0`
D. `7 : 2 : 3`

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Result

CPU Time: 0.32 sec(s), Memory: 35824 kilobyte(s)

```
7 : 2 : 3
```

QUESTION 98
Given:

```
class LogFileException extends Exception {}
class AccessViolationException extends RuntimeException {}

1. public class App {
2.   public static void main (String[] args) throws LogFileException {
3.        App obj = new App ();
4.        try {
5.             obj.open();
6.             obj.process();
7.                  //insert code here
8.        }
9.        catch (Exception e) {
10.            System.out,println("Completed.");
11.       }
12.  }
13.  public void process() {
14.       System.out.println("Processed");
15.       throw new LogFileException();
16.  }
17.  public void open () {
18        System.out.println ("Opened.");
19.       throw new AccessViolationException();
20.  }
21. }
```

Which action fixes the compiler error?

A. At line 17, add `throws AccessViolationException`
B. At line 13, add `throws LogFileException`
C. At line 2, replace `throws LogFileException` with `throws AccessViolationException`
D. At line 7, insert `throw new LogFileException ();`

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:

QUESTION 99
Given the code fragment:

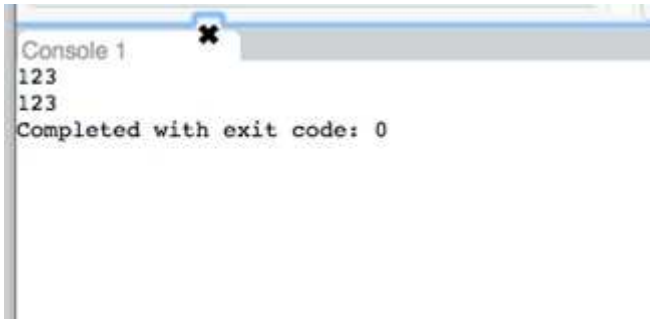
```
int array1[] = {1, 2, 3};
int array2[] = new int [5];
array2 = array1;
for (int i : array2) {
     System.out.print(i + " ");
}
System.out.println();
int array3[] = new int[3];
array3 = array2;
for (int i : array3) {
     System.out.print(i + " ");
}
```

What is the result?

A. `1 2 3 0 0`
   `1 2 3 0 0`
B. An `Exception` is thrown at run time.
C. `1 2 3 0 0`
   `1 2 3`
D. `1 2 3`
   `1 2 3`

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 100
Given the code fragment:

```
6. char colorCode = 'y';
7. switch (colorCode) {
8.   case 'r':
9.        int color = 100;
10.       break;
11.  case 'b':
12        color = 10;
13.       break;
14.  case 'y':
15.       color = 1;
16.       break;
17. }
18. System.out.println(color);
```

What is the result?

A. It results in a compile time error at line 18.
B. It results in a compile time error at line 9.
C. It prints : 1
D. It results in a compile time error at lines at lines 12 and 15.

Correct Answer: A
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
class colorCode {
  public static void main(String[] args) {

    char colorCode = 'y';
    switch (colorCode) {
      case 'r':
        int color = 100;
        break;
      case 'b':
        color = 10;
        break;
      case 'y':
        color = 1;
        break;
    }
    System.out.println(color);
  }
}
```

QUESTION 101
Given:

```
class Alpha {
     int ns;
     static int s;
     Alpha (int ns) {
           if (s <ns) {
               s = ns;
               this.ns = ns;
           }

     }
     void doPrint () {
          System.out.println("ns= " + ns + " s = " + s);
     }
}
```

And:

```
public class TestA {
     public static static void main(String[] args) {
          Alpha ref1 = new Alpha (100);
          Alpha ref2 = new Alpha (50);
          Alpha ref3 = new Alpha (125);
          ref1.doPrint();
          ref2.doPrint();
          ref3.doPrint();
     }
}
```

What is the result?

A. ns = 100 s =125
   ns = 0 s = 125
   ns = 125 s = 125

B. ns = 50 s = 50
ns = 125 s = 125
ns = 0 s = 125

C. ns = 50 s = 125
ns = 125 s = 125
ns = 0 s = 125

D. ns = 50 s = 50
ns = 125 s =125
ns = 100 s =100

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 102
Which two array initialization statements are valid? (Choose two.)

A.
```
int array[] = new int[3] {1, 2, 3};
```

B.
```
int array[] = new int[3];
array[0] = 1;
array[1] = 2;
array[2] = 3;
```

C.
```
int array[3] = new int[] {1, 2, 3};
```

D.
```
int array[] = new int[3];
array = {1, 2, 3};
```

E.
```
int array[] = new int[] {1,2,3};
```

Correct Answer: BE
Section: (none)
Explanation

Explanation/Reference:
Reference: https://stackoverflow.com/questions/1200621/how-do-i-declare-and-initialize-an-array-in-java

QUESTION 103
Given the class definitions:

```
class C1 {}
class C2 extends C1 {}
class C3 extends C2 {}
```

and the code fragment:

```
16. C1 obj1 = (C1) new C2();
17. C2 obj2 = (C2) new C3();
18. C2 obj3 = (C2) new C1();
19. C3 obj4 = (C3) obj2;
```

Which line throws `ClassCastException`?

A. line 18
B. line 17
C. line 19
D. line 16

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:

QUESTION 104
Which two features can be implemented in a Java application by encapsulating the entity classes used? (Choose two.)

A. data validation
B. compile time polymorphism
C. data hiding
D. data abstraction
E. data memory optimization

Correct Answer: CD
Section: (none)
Explanation

Explanation/Reference:
Reference: https://www.geeksforgeeks.org/encapsulation-in-java/

QUESTION 105
Given the code fragment:

```
public static void main(String[] args) {
      int sum = 0;
      for(int xVal = 1; xVal <= 5; xVal++) {
            sum = sum + xVal;
      }
      System.out.print("The sum of " + xVal + " numbers is: "+ sum);
}
```

What is the result?

A. `The sum of 4 numbers is: 10`
B. A compile time error occurs.
C. `The sum of 5 numbers is: 10`
D. `The sum of 5 numbers is: 15`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
/Main.java:29: error: cannot find symbol
    System.out.print("The sum of " + xVal + "numbers is:"+ sum);
                                    ^
  symbol:   variable xVal
  location: class Main
1 error
```

QUESTION 106
Given the code fragment:

```
List<String> arrayList = new ArrayList<>();
arrayList.add("Tech");
arrayList.add("Expert");
arrayList.set(0, "Java");
arrayList.forEach (a -> a.concat("Forum"));
arrayList.replaceAll (s -> s.concat("Group"));
System.out.println(arrayList);
```

What is the result?

A. `[JavaForum, ExpertForum]`
B. `[JavaGroup, ExpertGroup]`
C. `[JavaForumGroup, ExpertForumGroup]`
D. `[JavaGroup, TechGroup ExpertGroup]`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```java
public class Main {
  public static void main(String[] args) {
    List<String> arrayList = new ArrayList<> ();
    arrayList.add("Tech");
    arrayList.add("Expert");
    arrayList.set(0, "Java");
    arrayList.forEach (a -> a.concat ("Forum"));
    arrayList.replaceAll (s -> s.concat("Group"));
    System.out.println(arrayList);
  }


}
```

CPU Time: 0.18 sec(s), Memory: 32824 kilobyte(s)

```
[JavaGroup, ExpertGroup]
```

QUESTION 107
Examine the given definitions:

```
class Player {}

interface Playable {
     public void play();
     public void setPlayers(List<Player> players);
}

class Game implements Playable {
     private List<Player> players;
     public List<Player> getPlayers() { return players; }
     public void setPlayers(List<Player> players) { this.players
= players; }
     public void play() { System.out.println("Played."); }
}
```

and the code fragment:

```
Playable p = new Game();
List<Player> players = new ArrayList<>();
p.setPlayers (players);
p.play();
```

Which statement is true about the implementation of Object-Oriented Programming concepts in the given code?

A. Polymorphism, abstraction, and encapsulation are implemented.
B. Only polymorphism and inheritance are implemented.
C. Polymorphism, inheritance, and abstraction are implemented.
D. Only inheritance and encapsulation are implemented.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 108
Given:

```
class Product {
      int id;
      String name;
      Product (int id, String name) {
            this.id = id;
            this.name = name;
      }
}
public class Shop {
      public static void main(String[] args) {
            List<Product> 1st = new ArrayList<>();
            1st.add(new Product(10, "IceCream"));
            1st.add(new Product(11, "Chocolate"));
            Product p1 = new Product(10, "IceCream");
            System.out.println(1st.indexOf(p1));
      }
}
```

What is the result?

A. `true`
B. `false`
C. `-1`
D. `0`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
17  class Product {
18   int id;
19    String name;
20    Product(int id, String name) {
21      this.id = id;
22      this.name = name;
23    }
24  }
25
26  public class Shop {
27    public static void main(String[] args) {
28      List<Product> lst = new ArrayList<>();
29      lst.add(new Product(10, "IceCream"));
30      lst.add(new Product(11, "Chocolate"));
31      Product p1 = new Product(10, "IceCream");
32
33      System.out.println(lst.indexOf(p1));
34
35    }
36  }
```

Result

CPU Time: 0.15 sec(s), Memory: 33216 kilobyte(s)

```
-1
```

QUESTION 109
Given:

```
class S1 {
     protected void display(int x) {
          System.out.print("Parent" + x);
     }
}
class S2 extends S1 {
     public void display(int x, int y) {
          this.display(x);
          display(y);
          super.display(y);
}
     public void display(int x) {
          System.out.println("Child " + x);
     }
}
```

and the code fragment:

```
S2 sobj = new S2();
sobj.display(10, 100);
```

What is the result?

A.
```
Child 10
Child 100
Parent 100
```

B.
```
Parent 10
Child 10
Parent 1000
```

C.
```
Child 10
Parent 100
Parent 100
```

D. A compile time error occurs.

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
Error: Main method not found in class S1, please define the main method as:
   public static void main(String[] args)
or a JavaFX application class must extend javafx.application.Application
```

QUESTION 110
Given the code fragment:

```
List<String> lst = Arrays.asList("EN", "FR", "CH", "JP");
Iterator<String> itr = lst.iterator();
while(itr.hasNext()) {
     String e = itr.next();
     if (e == "CH") {
          break;
     }
System.out.print(e + " ");
}
```


What is the result?

A. EN FR JP
B. EN FR
C. CH
D. EN FR CH

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
16 public class Main {
17  public static void main(String[] args) {
18      List<String> lst = Arrays.asList("EN", "FR", "CH", "JP");
19      Iterator<String> itr = lst.iterator();
20      while(itr.hasNext()) {
21          String e = itr.next();
22          if(e == "CH") {
23              break;
24          }
25          System.out.print(e+ " ");
26      }
27  }
28 }
```

Result

CPU Time: 0.28 sec(s), Memory: 35336 kilobyte(s)

```
EN FR
```

QUESTION 111
Given:

```
class P1 {}
class P2 extends P1 implements I1 {}
interface I1 {}
```

and the code fragment:

```
P1 obj = new P1();
P2 obj2 = new P2();
I1 obj3 = new P2();
boolean r1 = obj instanceof P2;
boolean r2 = obj2 instanceof P1;
boolean r3 = obj3 instanceof I1;
System.out.println(r1 + ":" + r2 + ":"+r3);
```

What is the result?

A. `true:false:true`
B. `false:true:true`
C. `false:true:false`
D. `true:true:false`

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```java
class P1 {}
class P2 extends P1 implements I1 {}
interface I1 {}

public class Main {

public static void main(String[] args) {
    P1 obj = new P1();
    P2 obj2 = new P2();
    I1 obj3 = new P2();
    boolean r1 = obj instanceof P2;
    boolean r2 = obj2 instanceof P1;
    boolean r3 = obj3 instanceof I1;
    System.out.println(r1 + ":" + r2 + ":" + r3);
}
}
```

Result

CPU Time: 0.25 sec(s), Memory: 36044 kilobyte(s)

```
false:true:true
```

QUESTION 112
Given:

```
public class App {
      String greet = "Welcome!";
      public App() {
            String greet = "Hello!";
      }
      public void setGreet() {
            String greet = "Good Day!";
      }

      public static void main (String[] args) {
            App t = new App();
            String greet = "Good Luck!";
            System.out.println(t.greet);
      }
}
```

What is the result?

A. `Good Luck!`
B. `Good Day!`
C. `Welcome!`
D. `Hello!`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```java
public class App {
    String greet = "Welcome!";
    public App() {
        String greet = "Hello!";
    }
    public void setGreet() {
        String greet = "Good Day!";
    }

    public static void main(String[] args) {
        App t = new App();
        String greet = "Good Luck!";
        System.out.println(t.greet);
    }
}
```

Result

CPU Time: 0.24 sec(s), Memory: 32280 kilobyte(s)

```
Welcome!
```

QUESTION 113
Given:

```
public class App {
     int foo;
     static int bar;

     static void process() {
          foo += 10;
          bar += 10;
     }
     public static void main(String[] args) {
          App firstObj = new App();
          App.process();
          System.out.println(firstObj.bar);

          App secondObj = new App();
          App.process();
          System.out.println(secondObj.bar);
     }
}
```

What is the result?

A.
```
10
20
```

B. A compile time error occurs

C.
```
20
20
```

D.
```
10
10
```

Correct Answer: B
Section: (none)

Explanation

Explanation/Reference:
Explanation:

QUESTION 114
Given these requirements:
- Bus and Boat are Vehicle type classes.
- The `start()` and `stop()` methods perform common operations across the Vehicle class type.
- The `ride()` method performs a unique operations for each type of Vehicle.

Which set of actions meets the requirements with optimized code?

A. 1. Create an abstract class Vehicle by defining `start()` and `stop()` methods, and declaring the `ride()` abstract method.
   2. Create Bus and Boat classes by inheriting the Vehicle class and overriding the `ride()` method.
B. 1. Create an interface Vehicle by defining `start()` and `stop()` methods, and declaring the `ride()` abstract method.
   2. Create Bus and Boat classes by implementing the Vehicle class.
C. 1. Create an abstract class Vehicle by declaring `stop()`, `start()`, and `ride()` abstract methods.
   2. Create Bus and Boat classes by inheriting the Vehicle class and overriding all the methods.
D. 1. Create an interface Vehicle by defining default `stop()`, `start()`, and `ride()` methods.
   2. Create Bus and Boat classes by implementing the Vehicle interface and overriding the `ride()` method.

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:

QUESTION 115
Given:

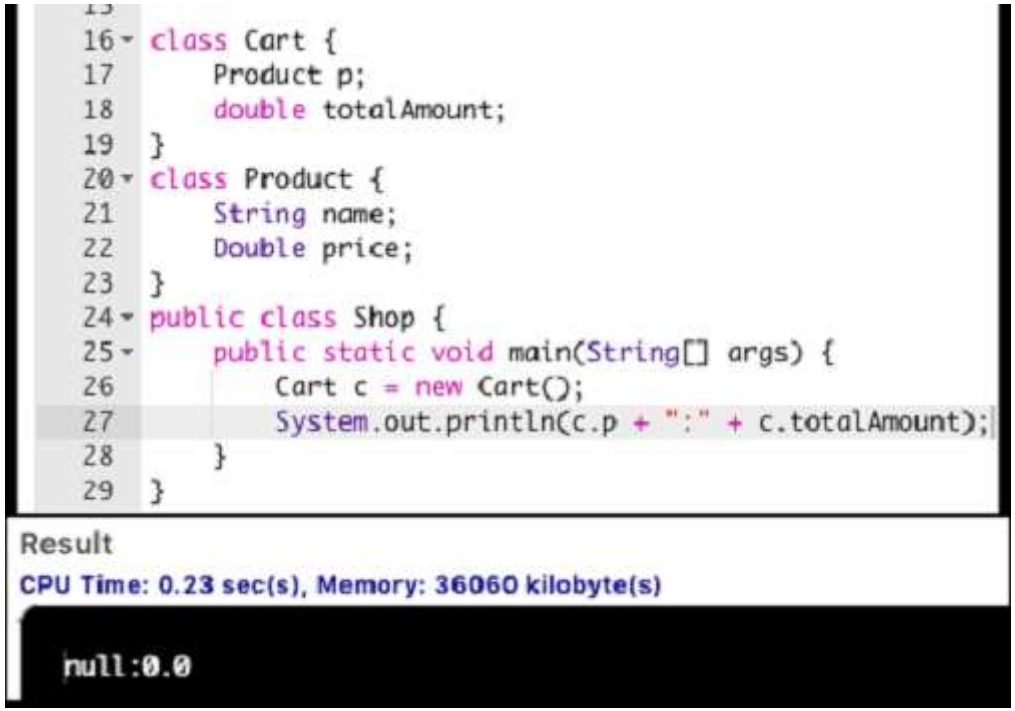
```
class Cart {
     Product p;
     double totalAmount;
}

class Product {
     String name;
     Double price;
}

public class Shop {
     public static void main(String[] args) {
          Cart c = new Cart();
          System.out.println(c.p + ":" + c.totalAmount);
     }
}
```

What is the result?

A. `null:null:0.0`
B. `null:null`
C. `<<HashCode>>:0.0`
D. `null:0.0`

Correct Answer: D
Section: (none)
Explanation

Explanation/Reference:
Explanation:



```
16 class Cart {
17     Product p;
18     double totalAmount;
19 }
20 class Product {
21     String name;
22     Double price;
23 }
24 public class Shop {
25     public static void main(String[] args) {
26         Cart c = new Cart();
27         System.out.println(c.p + ":" + c.totalAmount);
28     }
29 }
```

Result

CPU Time: 0.23 sec(s), Memory: 36060 kilobyte(s)

```
null:0.0
```

QUESTION 116
Examine the content of App.java:

```
package p1;
public class App {
     public static void main(String[] args) {
          System.out.println("Java");
     }
}
```

and of `Test.java`:

```
package p1.p2;
public class Test {}
```

Which is true?

A. The `App.class` file is stored within the `p1` folder. The `Test.class` file is stored within the `p2` sub-folder of `p1`.
B. The App class is accessible within the Test class without an `import` statement.
C. `import p1.App;` is used to access the App class within the Test class.
D. It is optional to have the `package` statement as the first line of class definitions.

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:

QUESTION 117
Given the code fragment:

```
7. public static void main(String[] args) {
8. Predicate<Integer> p = (n) -> n % 2 == 0;
9. // insert code here
10. }
```

Which code snippet at line 9 prints `true`?

A.
```
Boolean s = p.apply(101);
System.out.println(s);
```

B.
```
Boolean s = p.test(100);
System.out.println(s);
```

C.
```
Integer s = p.test(100);
if (s == 1) {
     System.out.println("false");
}
else {
     System.out.println("true");
)
```

D.
```
System.out.println(p.apply(100));
```

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:

```
18 public class App {
19   public static void main(String[] args) {
20       Predicate<Integer> p = (n) -> n % 2 == 0;
21       Boolean s = p.test(100);
22         System.out.println(s);
23   }
24 }
```

Result

CPU Time: 0.26 sec(s), Memory: 32908 kilobyte(s)

```
true
```

QUESTION 118
Given:

```
public class SumTest {

    public static void doSum(Integer x, Integer y) {
        System.out.println("Integer sum is " + (x + y));
    }

    public static void doSum(double x, double y) {
        System.out.println("double sum is " + (x + y));
    }

    public static void doSum(float x, float y) {
        System.out.println("float sum is " + (x + y));
    }

    public static void main(String[] args) {
        doSum(10, 20);
        doSum(10.0, 20.0);
    }
}
```

What is the result?

A. `double sum is 30.0`

```
float sum is 30.0
```

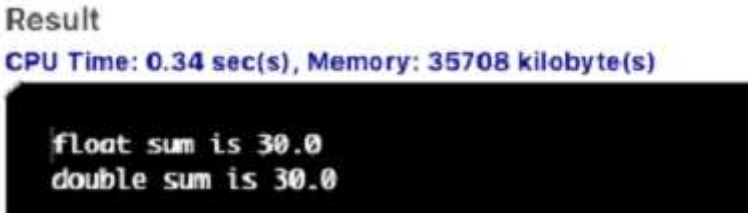
B.
```
float sum is 30.0
double sum is 30.0
```

C.
```
Integer sum is 30
double sum is 30.0
```

D.
```
Integer sum is 30
float sum is 30.0
```

Correct Answer: B
Section: (none)
Explanation

Explanation/Reference:
Explanation:



QUESTION 119
Given:

```
public class FieldInit {
    Character c;
    boolean b;
    float f;
    void printAll() {
        System.out.println("c = " + c);
        System.out.println("b = " + b);
        System.out.println("f = " + f);
    }

    public static void main(String[] args) {
        FieldInit f = new FieldInit();
        f.printAll();
    }
}
```

What is the result?

A. `c=null`
`b=true`
`f=0.0`

B. `c=`
`b=false`
`f=0.0`

C. `c=null`
`b=false`
`f=0.0`

D. `c=0`
`b=false`
`f=0.0F`

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation:

Result

CPU Time: 0.27 sec(s), Memory: 35768 kilobyte(s)

```
c =null
b =false
f =0.0
```

QUESTION 120
Which two code fragments cause compilation errors? (Choose two.)

A.
```
double y1 = 203.22;
float fit = y1;
```
B.
```
float fit = (float) 1_11.00;
```
C.
```
Float fit = 100.00;
```
D.
```
int y2 = 100;
float fit = (float) y2;
```
E.
```
float fit = 100.00F;
```

Correct Answer: BD
Section: (none)
Explanation

Explanation/Reference:

QUESTION 121
Given:

```
public class App {

    String myStr = "9009";

    public void doStuff(String str) {
        int myNum = 0;
        try {
            String myStr = str;
            myNum = Integer.parseInt(myStr);
        } catch (NumberFormatException ne) {
            System.err.println("Error");
        }
        System.out.println(
            "myStr: " + myStr + ", myNum: " + myNum);
    }

    public static void main(String[] args) {
        App obj = new App();
        obj.doStuff("7007");
    }
}
```

What is the result?

A. myStr: 7007, myNum: 7007
B. Error
C. myStr: 9009, myNum: 7007

D. myStr: 7007, myNum: 9009

Correct Answer: C
Section: (none)
Explanation

Explanation/Reference:
Explanation: