

## Sprint 1 - Day 1

### Sprint 1 - Day 1

#### Question #1 (1 point)

Which of these selection statements test only for equality or value based checking?

- ☐ None of the mentioned
- ☒ **switch** ✓
- ☐ if
- ☐ if & switch

#### Question #2 (1 point)

What is the numerical range of a char in Java?

- ☐ 0 to 32767
- ☒ **0 to 65535** ✓
- ☐ -128 to 127
- ☐ 0 to 256

#### Question #3 (1 point)

Which of the following are legal lines of Java code?

1. `int w = (int)888.8;`
2. `byte x = (byte)100L;`
3. `long y = (byte)100;`
4. `byte z = (byte)100L;`

- ☐ 1 and 2
- ☐ 2 and 3
- ☒ **All statements are correct.** ✓
- ☐ 3 and 4

#### Question #4 (1 point)

What is the output of this program?

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

```
int var1 = 5;
int var2 = 6;
System.out.print(var1 > var2);
}
}
```

- ☐ 1
- ☐ 0
- ☒ false ✓
- ☐ true

---

#### Question #5 (1 point)

---

What is the value stored in x in following lines of code?

```
int x, y, z;
x = 0;
y = 1;
x = y = z = 8;
```

- ☐ 1
- ☒ 8 ✓
- ☐ 9
- ☐ 0

---

#### Question #6 (1 point)

---

What is the output of this program?

```
class bitwise_operator {
public static void main(String args[])
{
int a = 3;
int b = 6;
int c = a | b;
int d = a & b;
System.out.println(c + " " + d);
}
}
```

- ☐ 7 5
- ☐ 7 7

☐ 72 ✓

☐ 52

### Question #7 (1 point)

What is the output of this program?

```
class mainclass
{
public static void main(String args[])
{
boolean var1 = true;
boolean var2 = false;
if (var1)
System.out.println(var1);
else
System.out.println(var2);
}
}
```

☐ false

☐ 0

☐ true ✓

☐ 1

### Question #8 (1 point)

What is the output of this program?

```
class Output {
public static void main(String args[])
{
boolean a = true;
boolean b = false;
boolean c = a ^ b;
System.out.println(!c);
}
}
```

☐ 1

☐ false ✓

☐ 0

☐ true

---

**Question #9** (1 point)

Which of these values can a boolean variable contain?

- ☐ Any integer value
- ☒ true & false ✓
- ☐ true
- ☐ 0 & 1

---

**Question #10** (1 point)

What is the output of this program?

```
class Output {  
public static void main(String args[])  
{  
int x, y = 1;  
x = 10;  
if (x != 10 && x / 0 == 0)  
System.out.println(y);  
else  
System.out.println(++y);  
}  
}
```

- ☐ 1
- ☐ Unpredictable behavior of program.
- ☐ Runtime error owing to division by zero in if condition.
- ☒ 2 ✓

---

**Question #11** (1 point)

Which of these is necessary condition for automatic type conversion in Java?

- ☐ None of the mentioned
- ☐ The destination type can be larger or smaller than source type.
- ☐ The destination type is smaller than source type.
- ☒ The destination type is larger than source type. ✓

---

**Question #12** (1 point)

What is the output of this program?

```
class AsciiCodes {  
    public static void main(String args[])  
    {  
        char var1 = 'A';  
        char var2 = 'a';  
        System.out.println((int)var1 + " " + (int)var2);  
    }  
}
```

- ☐ 66 98
- ☒ 65 97 ✓
- ☐ 67 95
- ☐ 162

---

**Question #13** (1 point)

Which of these is not a bitwise operator?

- ☐ |
- ☒ <= ✓
- ☐ &
- ☐ ^

---

**Question #14** (1 point)

3. Which of these literals can be contained in a data type float variable?

- ☐ 1.7e+308
- ☐ 3.4e-050
- ☒ 3.4e-038 ✓
- ☐ a) 1.7e-308 1.7e-308

---

**Question #15** (1 point)

Which of these coding types is used for data type characters in Java?

- ☐ None of the mentioned
- ☒ UNICODE ✓
- ☐ ISO-LATIN-1

☐ ASCII

#### Question #16 (1 point)

What is the output of this program?

```
class bitwise_operator {  
    public static void main(String args[])  
    {  
        int var1 = 42;  
        int var2 = ~var1;  
        System.out.print(var1 + " " + var2);  
    }  
}
```

☐ 43 43

☐ 42 42

☐ 42 43

☒ 42 -43 ✓

#### Question #17 (1 point)

What is the error in this code?

```
byte b = 50;  
b = b * 50;
```

☐ No error in this code

☐ b can not contain value 100, limited by its range.

☒ \* operator has converted b \* 50 into int, which can not be converted to byte without casting. ✓

☐ b can not contain value 50.

#### Question #18 (1 point)

What is the output of this program?

```
class increment {  
    public static void main(String args[])  
    {  
        int g = 3;  
        System.out.print(++g * 8);  
    }  
}
```

☐ 24

☐ 32 ✓

☐ a) 1.7e-308 25

☐ 33

#### Question #19 (1 point)

Which one is a valid declaration of a boolean?

☐ boolean b2 = false;

☐ **boolean b3 = false;** ✓

☐ boolean b1 = 1;

☐ boolean b4 = true;

#### Question #20 (1 point)

What is the range of data type short in Java?

☐ -128 to 127

☐ None of the mentioned

☐ -2147483648 to 2147483647

☐ **-32768 to 32767** ✓

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## Sprint 1 - Day 2

### Sprint 1 - Day 2

#### Question #1 (1 point)

What is the process of defining more than one method in a class differentiated by method signature?

☐ Function overriding

☐ None of the mentioned

☐ Function doubling

• **Function overloading** ✓

**Question #2** (1 point)

What is the output of this program?

```
class test
{
    int a,b;
    test(int i, int j)
    {
        a = i;
        b = j;
    }
    void meth(test o)
    {
        o.a *= 2;
        o.b /= 2;
    }
}
class Output
{
    public static void main(String args[])
    {
        test obj = new test(10 , 20);
        obj.meth(obj);
        System.out.println(obj.a + " " + obj.b);
    }
}
```

- ☐ 20 40
- ☒ **20 10** ✓
- ☐ 40 20
- ☐ 10 20

**Question #3** (1 point)

Which of the following statements are incorrect?

- ☐ Constructor can be parameterized.



- ☒ **finalize() method is called when a object goes out of scope and is no longer needed** ✓.
- ☐ Default constructor is called at the time of declaration of the object if a constructor has not been defined.
- ☐ finalize() method must be declared protected.

**Question #4 (1 point)**

Which of these is used as default for a member of a class if no access specifier is used for it?

- ☐ public
- ☐ private
- ☒ **default** ✓
- ☐ protected

**Question #5 (1 point)**

Which of these statement is incorrect?

- ☐ Main method return void as return type.
- ☒ **Every class must contain a main() method.** ✓
- ☐ There can be only one main() method in a program.
- ☐ main() method must be made public.

**Question #6 (1 point)**

Which of these access specifiers must be used for main() method?

- ☒ **public** ✓
- ☐ private

☐ protected

☐ protected

#### Question #7 (1 point)

Which of the following is a method having same name as that of its class?

☐ class

☐ finalize

☒ **constructor** ✓

☐ delete

#### Question #8 (1 point)

Which of these is correct about passing an argument by call-by-value process?

☒ **Copy of argument is made into the formal parameter of the subroutine** ✓.

☐ copy of argument is made into the formal parameter of the subroutine and changes made on parameters of subroutine have effect on original argument.

☐ Reference to original argument is passed to formal parameter of the subroutine.

☐ Reference to original argument is passed to formal parameter of the subroutine and changes made on parameters of subroutine have effect on original argument.

#### Question #9 (1 point)

What is the output of this program?

```
class box
{
int width,height,length,volume;
void volume()
{
volume = width*height*length;
}
}
```

```
class Output
{
public static void main(String args[])
{
box obj = new box();
obj.height = 1;
obj.length = 5;
obj.width = 5;
obj.volume();
System.out.println(obj.volume);
}
}
```

☐ 26

☒ 25 ✓

☐ 0

☐ 1

#### Question #10 (1 point)

What is the output of this program?

```
class overload
{
int x,y;
void add(int a) {
x = a + 1;
}
void add(int a, int b){
x = a + 2;
}
}
class Overload_methods
{
public static void main(String args[])
{
overload obj = new overload();
int a = 0;
obj.add(6);
System.out.println(obj.x);
}
```

```
}  
}
```

- ☐ 8
- ☐ 6
- ☒ 7 ✓
- ☐ 5

**Question #11** (1 point)

---

Which of the following is a valid declaration of an object of class Box?

- ☒ **Box obj = new Box();** ✓
- ☐ Box obj = new Box;
- ☐ new Box obj;
- ☐ obj = new Box();

**Question #12** (1 point)

---

What is the output of this program?

```
class box  
{  
  int width,height,length;  
}  
class mainclass {  
  public static void main(String args[])  
  {  
    box obj = new box();  
    obj.width = 10;  
    obj.height = 2;  
    obj.length = 10;  
    int y = obj.width * obj.height * obj.length;  
    System.out.print(y);  
  }  
}
```

```
}  
}
```

- ☐ 200 ✓
- ☐ 12
- ☐ 100
- ☐ 400

**Question #13** (1 point)

What is the output of this program?

```
class test {  
    int a;  
    int b;  
    void meth(int i , int j) {  
        i *= 2;  
        j /= 2;  
    }  
}  
class Output {  
    public static void main(String args[])  
    {  
        test obj = new test();  
        int a = 10;  
        int b = 20;  
        obj.meth(a , b);  
        System.out.println(a + " " + b);  
    }  
}
```

- ☐ 20 10
- ☐ 20 40
- ☐ 10 20 ✓
- ☐ 40 20

**Question #14 (1 point)**

---

Which of the following is a method having same name as that of its class?

- ☐ class
- ☐ finalize
- ☒ **constructor** ✓
- ☐ delete

**Question #15 (1 point)**

---

Which of these is used to access member of class before object of that class is created?

- ☐ public
- ☐ protected
- ☐ private
- ☒ **static** ✓

**Question #16 (1 point)**

---

Which of these can be overloaded?

- ☐ Methods
- ☒ **All of the mentioned** ✓
- ☐ Constructors
- ☐ None of the mentioned

**Question #17 (1 point)**

---

What is stored in the object obj in following lines of code?  
box obj;

- ☐ Garbage
- ☒ **NULL** ✓
- ☐ Any arbitrary pointer
- ☐ Memory address of allocated memory of object.

**Question #18** (1 point)

---

What is the output of this program?

```
class box
{
int width,height,length,volume;
void volume(int height, int length, int width)
{
volume = width*height*length;
}
}
class Prameterized_method
{
public static void main(String args[])
{
box obj = new box();
obj.height = 1;
obj.length = 5;
obj.width = 5;
obj.volume(3,2,1);
System.out.println(obj.volume);
}
}
```

- ☒ **6** ✓
- ☐ 0
- ☐ 25
- ☐ 1

**Question #19** (1 point)

---

What is the process of defining a method in terms of itself, that is a method that calls itself?

- ☒ **Recursion** ✓
- ☐ Polymorphism
- ☐ Abstraction
- ☐ copy of argument is made into the formal parameter of the subroutine and changes made on parameters of subroutine have effect on original Encapsulation

**Question #20** (1 point)

What is the return type of a method that does not returns any value?

- ☐ int
- ☐ float
- ☐ double
- ☒ **void** ✓

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## Spring-1-Sprint 1 :: Day4 :: Assignment-3

### Spring-1-Sprint 1 :: Day4 :: Assignment-3

**Question #1** (1 point)

What is the output of this program?

```
final class A {  
    int i;  
}  
class B extends A {  
    int j;  
    System.out.println(j + " " + i);  
}  
class inheritance {
```



```
public static void main(String args[])
{
    B obj = new B();
    obj.display();
}
}
```

- ☐ 2 2
- ☐ 3 3
- ☐ Runtime Error
- ☒ **Compilation Error** ✓

#### Question #2 (1 point)

---

Which of these access specifiers must be used for main() method?

- ☐ private
- ☒ **public** ✓
- ☐ protected
- ☐ None of the above.

#### Question #3 (1 point)

---

What is the output of this program?

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

```
public static void main(String args[])
{
A obj1 = new A();
B obj2 = new B();
A r;
r = obj1;
r.display();
r = obj2;
r.display();
}
}
```

- ☒ A B ✓
- ☐ B A
- ☐ Runtime Error
- ☐ Compilation Error

#### Question #4 (1 point)

Which of these is used to access member of class before object of that class is created?

- ☐ public
- ☐ private
- ☒ static ✓
- ☐ protected

#### Question #5 (1 point)

What is the output of this program?

```
class A
{
int i;
void display() {
System.out.println(i);
}
```

```
}  
class B extends A {  
    int j;  
    void display() {  
        System.out.println(j);  
    }  
}  
class method_overriding  
{  
    public static void main(String args[])  
    {  
        B obj = new B();  
        obj.i=1;  
        obj.j=2;  
        obj.display();  
    }  
}
```

- ☐ 0
- ☐ 1
- ☒ 2 ✓
- ☐ Compilation Error

#### Question #6 (1 point)

Which of these keywords is used to refer to member of base class from a sub class?

- ☒ super ✓
- ☐ None of the mentioned
- ☐ this
- ☐ upper

#### Question #7 (1 point)

What is the output of this program?

```
class A {  
    public int i;  
    public int j;  
    A() {  
        i = 1;  
        j = 2;  
    }  
}  
class B extends A {  
    int a;  
    B() {  
        super();  
    }  
}  
class super_use {  
    public static void main(String args[])  
    {  
        B obj = new B();  
        System.out.println(obj.i + " " + obj.j)  
    }  
}
```

- ☒ 1 2 ✓
- ☐ 2 1
- ☐ Runtime Error
- ☐ Compilation Error

#### Question #8 (1 point)

---

What is Abstraction?

- ☐ Abstraction is a technique to define different methods of same type.
- ☐ Abstraction is the ability of an object to take on many forms.
- ☒ It refers to the ability to make a class abstract in OOP. ✓
- ☐ None of the above.

**Question #9 (1 point)**

Which of these keyword can be used in subclass to call the constructor of superclass?

- ☒ **super** ✓
- ☐ this
- ☐ extent
- ☐ extends

**Question #10 (1 point)**

What is the output of this program?

```
class Output {  
    static void main(String args[])  
    {  
        int x , y = 1;  
        x = 10;  
        if (x != 10 && x / 0 == 0)  
            System.out.println(y);  
        else  
            System.out.println(++y);  
    }  
}
```

- ☐ 1
- ☐ 2
- ☐ Runtime Error
- ☒ **Compilation Error** ✓

**Question #11 (1 point)**

What is the output of this program?

```
class A {  
    int i;  
    void display() {
```

```
System.out.println(i);
}
}
class B extends A {
int j;
void display() {
System.out.println(j);
}
}
class inheritance_demo {
public static void main(String args[])
{
B obj = new B();
obj.i=1;
obj.j=2;
obj.display();
}
}
```

- ☐ 0
- ☐ 1
- ☒ 2 ✓
- ☐ Compilation Error

**Question #12** (1 point)

Which of these is correct way of calling a constructor having no parameters, of superclass A by subclass B?

- ☐ super(void);
- ☐ superclass.();
- ☐ super.A();
- ☒ super(); ✓

**Question #13** (1 point)

Which of these is correct way of inheriting class A by class B?

- ☐ class B + class A {}
- ☐ class B inherits class A {}
- ☒ **class B extends A {}** ✓
- ☐ class B extends class A {}

**Question #14** (1 point)

What is the output of this program?

```
class A
{
int i;
}
class B extends A {
int j;
void display() {
super.i = j + 1;
System.out.println(j + " " + i);
}
}
class inheritance {
public static void main(String args[])
{
B obj = new B();
obj.i=1;
obj.j=2;
obj.display();
}
}
```

- ☐ 2 2
- ☐ 3 3
- ☒ **2 3** ✓
- ☐ 3 2

Question #15 (1 point)

A class member declared protected becomes member of subclass of which type?

- ☐ public member
- ☒ **private member** ✓
- ☐ protected member
- ☐ static member

Question #16 (1 point)

What is the output of this program?

```
class equality {  
    int x;  
    int y;  
    boolean isequal(){  
        return(x == y);  
    }  
}  
  
class Output {  
    public static void main(String args[])  
    {  
        equality obj = new equality();  
        obj.x = 5;  
        obj.y = 5;  
        System.out.println(obj.isequal());  
    }  
}
```

- ☐ false
- ☒ **true** ✓
- ☐ 0
- ☐ 1

Question #17 (1 point)



Which of the following statements are incorrect?

- ☐ public members of class can be accessed by any code in the program.
- ☐ private members of class can only be accessed by other members of the class.
- ☐ **private members of class can be inherited by a sub class, and become protected members in sub class. ✓**
- ☐ protected members of a class can be inherited by a sub class, and become private members of the sub class.

**Question #18 (1 point)**

---

Which of these is supported by method overriding in Java?

- ☐ Abstraction
- ☐ Encapsulation
- ☐ **Polymorphism ✓**
- ☐ None of the mentioned

**Question #19 (1 point)**

---

Which of these keyword must be used to inherit a class?

- ☐ **extends ✓**
- ☐ this
- ☐ extent
- ☐ super

**Question #20 (1 point)**

---

What is composition?

- ☐ Composition is a data structure.
- ☐ Composition is a way to create an object.
- ☒ Holding the reference of the other class within some other class is known as composition. ✓
- ☐ None of the above.

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## Sprint-1 - Day-5 :: Assignemnt

### Sprint-1 - Day-5 :: Assignemnt

#### Question #1 (1 point)

Which of these method of ArrayList class is used to obtain present size of an object?

- ☐ capacity()
- ☐ index()
- ☒ size() ✓
- ☐ length()

#### Question #2 (1 point)

What is the output of this program?

```
import java.util.*;
class Output {
public static void main(String args[]) {
ArrayList obj = new ArrayList();
obj.add("A");
obj.add(0, "B");
System.out.println(obj.size());
}
```

```
}  
}
```

- ☒ 2 ✓
- ☐ Any Garbage Value
- ☐ 1
- ☐ 0

### Question #3 (1 point)

What is the output of this program?

```
import java.util.*;  
class ArrayList {  
    public static void main(String args[]) {  
        ArrayList obj = new ArrayList();  
        obj.add("A");  
        obj.add("B");  
        obj.add("C");  
        obj.add(1, "D");  
        System.out.println(obj);  
    }  
}
```

- ☒ [A, D, B, C] ✓
- ☐ [A, D, C]
- ☐ [A, B, C, D]
- ☐ [A, B, C]

### Question #4 (1 point)

Which of these keywords is used to define packages in Java?

- ☐ Package

☐ package ✓

☐ pkg

☐ Pkg Pkg

#### Question #5 (1 point)

Which of these methods can be used to obtain a static array from an ArrayList object?

☐ covertArray()

☐ Array() ✓

☐ toArray()

☐ covertToArray()

#### Question #6 (1 point)

Which of these standard collection classes implements a dynamic array?

☐ ArrayList ✓

☐ AbstractList

☐ LinkedList

☐ AbstractSet

#### Question #7 (1 point)

Which of this access specifies can be used for a class so that its members can be accessed by a different class in the same package?

☐ No Modifier

☐ Protected

☐ All of the mentioned ✓

☐ Public

#### Question #8 (1 point)

What is the output of this program?

```
import java.util.*;
class Output
{
public static void main(String args[])
{
ArrayList obj = new ArrayList();
obj.add("A");
obj.add(0, "B");
System.out.println(obj.size());
}
}
```

- ☐ 1
- ☒ 2 ✓
- ☐ 0
- ☐ Any Garbage Value

#### Question #9 (1 point)

Which of these class is superclass of every class in Java?

- ☒ Object class ✓
- ☐ String class
- ☐ ArrayList class
- ☐ Abstract class

#### Question #10 (1 point)

Which of the following is correct way of importing an entire package ěpkgí?

- ☐ Import pkg.\*
- ☐ import pkg.
- ☒ **import pkg.\*** ✓
- ☐ Import pkg.

**Question #11** (1 point)

---

Which of the following is correct way of implementing an interface salary by class manager?

- ☐ None of the mentioned.
- ☐ class manager extends salary {}
- ☒ **class manager implements salary {}** ✓
- ☐ class manager imports salary {}

**Question #12** (1 point)

---

Which collection class allows you to grow or shrink its size and provides indexed access to its elements, but whose methods are not synchronized?

- ☐ java.util.LinkedHashSet
- ☐ java.util.List
- ☐ java.util.HashSet
- ☒ **java.util.ArrayList** ✓

**Question #13** (1 point)

---

Which of the following is incorrect statement about packages?

- ☐ Interfaces specifies what class must do but not how it does.

- ☐ All variables in interface are implicitly final and static.
- ☒ **All variables are static and methods are public if interface is defined public. ✓**
- ☐ Interfaces are specified public if they are to be accessed by any code in the program.

**Question #14 (1 point)**

---

Which of the following package stores all the standard java classes?

- ☐ util
- ☐ java
- ☒ **lang ✓**
- ☐ java.packages

**Question #15 (1 point)**

---

Which of these can be used to fully abstract a class from its implementation?

- ☐ None of the Mentioned.
- ☐ Packages
- ☐ Objects
- ☒ **Interfaces ✓**

**Question #16 (1 point)**

---

Which of these access specifiers can be used for an interface?

- ☒ **Public ✓**
- ☐ Protected
- ☐ private

☐ All of the mentioned

**Question #17 (1 point)**

What is the output of this program?

```
import java.util.*;
class Output {
public static void main(String args[]) {
ArrayList obj = new ArrayList();
obj.add("A");
obj.ensureCapacity(3);
System.out.println(obj.size());
}
}
```

☐ 2

☐ 3

☒ 1 ✓

☐ 4

**Question #18 (1 point)**

What is the output of this program?

```
interface calculate {
void cal(int item);
}
class display implements calculate {
int x;
public void cal(int item) {
x = item * item;
}
}
class interfaces {
public static void main(String args[]) {
display arr = new display();
arr.x = 0;
arr.cal(2);
System.out.print(arr.x);
}
```



```
}  
}
```

- ☐ 2
- ☐ 0
- ☐ None of the mentioned
- ☒ 4 ✓

**Question #19** (1 point)

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Which of these keywords can be used to prevent inheritance of a class?

- ☒ **final** ✓
- ☐ super
- ☐ Class
- ☐ constant

**Question #20** (1 point)

---

Which of these class can generate an array which can increase and decrease in size automatically?

- ☒ **ArrayList()** ✓
- ☐ DynamicList()
- ☐ DynamicList()
- ☐ LinkedList()

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