1.

What is the result of compiling and running the following program?

```
public class Learner {
    public static void main(String[] args) {
        String[] dataArr = new String[4];
        dataArr[1] = "Bill";
        dataArr[2] = "Steve";
        dataArr[3] = "Larry";
        try{
            for(String data : dataArr){
                System.out.print(data+" ");
            }
        }catch(Exception e){
            System.out.println(e.getClass());
        }
    }
}
```

Please select 1 option

- ○ Bill Steve Larry null
- ○ Bill Steve Larry class java.lang.NullPointerException
- ○ class java.lang.Exception Bill Steve Larry
- ○ Bill Steve Larry class java.lang.Exception
- ○ null Bill Steve Larry

2.

Which of the following are benefits of ArrayList over an array?

Please select 1 option

- ○ You do not have to worry about the size of the ArrayList while appending elements.
- ○ It consumes less memory space.
- ○ You do not have to worry about thread safety.
- ○ It allows you to write type safe code.

3.

Which of the following correctly declare a variable which can hold an array of 10 integers?

Please select 2 options

- ☐ int[ ] iA
- ☐ int[10] iA
- ☐ int iA[ ]
- ☐ Object[ ] iA
- ☐ Object[10] iA

4.

Given:

```
import java.util.*;
public class TestClass {
    public static void main(String[] args) throws Exception {
        ArrayList<Double> al = new ArrayList<>();

        //INSERT CODE HERE
     }
}
```

What can be inserted in the above code so that it can compile without any error?

Please select 2 options

- [ ] `al.add(111);`
- [ ] `System.out.println(al.indexOf(1.0));`
- [ ] `System.out.println(al.contains("string"));`
- [ ] `Double d = al.get(al.length);`

5.

Given:
`double da[] = new double[3];`

Identify correct statements.

Please select 1 option

- ○ `for(double d : da) System.out.println(d);` will print
  null
  null
  null
- ○ `for(int i=1; i<=da.length; i++ ) System.out.println(da[i]);` will print
  null
  null
  null
- ○ `for(int i=0; i<=da.length; i++ ) System.out.println(da[i]);` will print
  null
  null
  null
- ○ `for(int i=0; i<da.length; i++ ) System.out.println(da[i]);` will print
  null
  null
  null
- ○ None of the above.

6.

What sequence of digits will the following program print?

```
import java.util.* ;
public class ListTest
{
   public static void main(String args[])
   {
      List s1 = new ArrayList( );
      s1.add("a");
      s1.add("b");
      s1.add(1, "c");
      List s2 = new ArrayList(  s1.subList(1, 1) );
      s1.addAll(s2);
      System.out.println(s1);
   }
}
```

Please select 1 option

- ○ The sequence `a, b, c` is printed.
- ○ The sequence `a, b, c, b` is printed.
- ○ The sequence `a, c, b, c` is printed.
- ○ The sequence `a, c, b` is printed.
- ○ None of the above.

7.

What will be the result of compiling and running the following program?

```
class SomeClass
{
   public static void main(String args[])
   {
      int size = 10;
      int[] arr = new int[size];
      for (int i = 0 ; i < size ; ++i) System.out.println(arr[i]);
   }
}
```

Please select 1 option

- ○ The code will fail to compile, because the int[] array declaration is incorrect.
- ○ The program will compile, but will throw an IndexArrayOutOfBoundsException when run.
- ○ The program will compile and run without error, and will print nothing.
- ○ The program will compile and run without error and will print null ten times.
- ○ The program will compile and run without error and will print '0' ten times.

8.

What will the following code print?

```
List s1 = new ArrayList( );
s1.add("a");
s1.add("b");
s1.add("c");
s1.add("a");
System.out.println(s1.remove("a")+" "+s1.remove("x"));
```

Please select 1 option

- ○ 1 0
- ○ 2 -1
- ○ 2 0
- ○ 1 -1
- ○ true false

9.

Identify the correct statements about ArrayList.

Please select 3 options

- ☐ Standard JDK provides no subclasses of ArrayList.
- ☐ An ArrayList cannot store primitives.
- ☐ It allows constant time access to all its elements.
- ☐ ArrayList cannot resize dynamically if you add more number of elements than its capacity.
- ☐ An ArrayList is backed by an array.
- ☐ Elements can be inserted into an ArrayList at various positions using the assignment operator.

10.

What will the following code print when run?

```
List s1 = new ArrayList( ); //1
s1.add("ann");//2
if(s1.contains("ann")) //3
s1.add("ann");//4
System.out.println(s1.size()+" "+s1.indexOf("ann"));//5
```

Please select 1 option

- ○ 1 0
- ○ 2 0
- ○ 2 1
- ○ 1 1
- ○ Compilation failure
- ○ an exception at run time

11.

What can be inserted in the following code so that it will print `true` when run?

```
List s1 = new ArrayList( );
s1.add("ann");
s1.add("bella");

//INSERT CODE HERE

System.out.println(flag);
```

Please select 1 option

- ○ `boolean flag = s1.contains("bella");`
- ○ `boolean flag = s1.indexOf("bella")>1;`
- ○ `boolean flag = s1.contains("bella") == 1;`
- ○ `boolean flag = s1.length()>1;`

12.

Given the following declaration, select the correct way to get the size of the array, assuming that the array has been initialized.

```
int[] intArr;
```

Please select 1 option

- ○ `intArr[ ].length( )`
- ○ `intArr.length( )`
- ○ `intArr.length`
- ○ `intArr[ ].size( )`
- ○ `intArr.size( )`

13.

Given the complete contents of TestClass.java file:

```
package x;
public class TestClass {
    ArrayList<String> al;
    public void init(){
        al = new ArrayList<>();
        al.add("Name 1");
        al.add("Name 2");
    }
    public static void main(String[] args) throws Exception {
        TestClass tc = new TestClass();
        tc.init();
        System.out.println("Size = "+tc.al.size());
    }
}
```

Which import statement should be added to make it compile?

Please select 1 option

- ○ `import java.lang.*;`
- ○ `import java.lang.ArrayList;`
- ○ `import java.util.ArrayList;`
- ○ `import java.collections.ArrayList;`
- ○ No import is necessary.

14.

Given:

```
public class Account {
    int id;
    public Account(int id){
        this.id = id;
    }

    public static void main(String[] args) {
        List<Account> list = new ArrayList<Account>();
        list.add(new Account(111));
        list.add(new Account(222));

        //insert code here
    }
}
```

Which of the following options, when inserted in the above code, will print `111 222` ?

Please select 1 option

- ○ `for(int id : list.id) System.out.print(id+" ");`
- ○ `for(Account id : list) System.out.print(id+" ");`
- ○
```
Iterator<Account> it = list.iterator();
while(it.hasNext()) System.out.println(it.next()+" ");
```
- ○ `for(int i = 0; i<list.size(); i++) System.out.print(list.id+" ");`
- ○ None of the above.

15.

What will the following code snippet print?

```
int index = 1;
String[] strArr = new String[5];
String  myStr  = strArr[index];
System.out.println(myStr);
```

See Hint

Please select 1 option

- ○ It will print nothing.
- ○ It will print `null`.
- ○ It will throw `ArrayIndexOutOfBoundsException` at runtime.
- ○ It will print some junk value.
- ○ None of the above.

16.

What will the following code print?

```
List s1 = new ArrayList( );
s1.add("a");
s1.add("b");
s1.add("c");
s1.add("a");
if(s1.remove("a")){
    if(s1.remove("a")){
        s1.remove("b");
    }else{
        s1.remove("c");
    }
}
System.out.println(s1);
```

Please select 1 option

- ○ [b]
- ○ [c]
- ○ [b, c, a]
- ○ [a, b, c, a]
- ○ Exception at runtime

17.

Given the following line of code:

```
List students = new ArrayList();
```

Identify the correct statement:

Please select 1 option

- ○ The reference type is List and the object type is ArrayList.
- ○ The reference type is ArrayList and the object type is ArrayList.
- ○ The reference type is ArrayList and the object type is List.
- ○ The reference type is List and the object type is List.

18.

What will the following code print when compiled and run?

```
import java.util.*;
public class TestClass {
    public static void main(String[] args) throws Exception {
        ArrayList<String> al = new ArrayList<String>();
        al.add("111");
        al.add("222");
        System.out.println(al.get(al.size()));
     }
}
```

Please select 1 option

- ○ It will not compile.
- ○ It will throw a `NullPointerException` at run time.
- ○ It will throw an `IndexOutOfBoundsException` at run time.
- ○ 222
- ○ null

19.

What will be the output of the following code snippet?

```
int a = 1;
int[] ia = new int[10];
int b = ia[a];
int c = b + a;
System.out.println(b = c);
```

Please select 1 option

- ○ 0
- ○ 1
- ○ 2
- ○ true
- ○ false

20.

Is it possible to create arrays of length zero?

Please select 1 option

- ○ Yes, you can create arrays of any type with length zero.
- ○ Yes, but only for primitive datatypes.
- ○ Yes, but only for arrays of object references.
- ○ Yes, and it is same as a null array.
- ○ No, arrays of length zero do not exist in Java.

21.

Which of the following classes are from java.util package?

Please select 3 options

- ☐ String
- ☐ ArrayList
- ☐ Collection
- ☐ Math
- ☐ Random

22.

What will the following code print when compiled and run?

```
import java.util.*;
public class TestClass {
    public static void main(String[] args) throws Exception {
        List list = new ArrayList();
        list.add("val1"); //1
        list.add(2, "val2"); //2
        list.add(1, "val3"); //3
        System.out.println(list);
     }
}
```

Please select 1 option

- ○ It will not compile.
- ○ It will throw an exception at run time because of line //1
- ○ It will throw an exception at run time because of line //2
- ○ It will throw an exception at run time because of line //3
- ○ null

23.

What will the following code print when compiled and run?

```
public class Account {
    double balance;
    public void update(int[] balances2){
        balances2[0] = 100;
        balances2[1] = 200;
    }

    public static void main(String[] args) {
        int[] balances1 = new int[2];
        balances1[0] = 10;
        balances1[1] = 20;
        for(int bal :  balances1){
            System.out.print(bal+" ");
        }
        Account a = new Account();
        a.update(balances1);
        for(int bal :  balances1){
            System.out.print(bal+" ");
        }
    }
}
```

Please select 1 option

- ○ `10 20 100 200`
- ○ `10 20 10 20`
- ○ Compilation failure
- ○ An exception will be thrown at run time.

24.

Which of the following statements will correctly create and initialize an array of Strings to non null elements?

Please select 4 options

- ☐ `String[] sA = new String[1] { "aaa"};`
- ☐ `String[] sA = new String[] { "aaa"};`
- ☐ `String[] sA = new String[1] ; sA[0] = "aaa";`
- ☐ `String[] sA = {new String( "aaa")};`
- ☐ `String[] sA = { "aaa"};`

25.

What will the following code print when compiled and run?

```
public class Account {
    double balance;
    public void update(int[] balances){
        for(int bal :  balances){
            bal = 100;
        }
    }

    public static void main(String[] args) {
        int[] balances = new int[2];
        balances[0] = 10;
        balances[1] = 20;
        for(int bal :  balances){
            System.out.print(bal+" ");
        }
        Account a = new Account();
        a.update(balances);
        for(int bal :  balances){
            System.out.print(bal+" ");
        }
    }
}
```

Please select 1 option

- ○ `10 20 100 100`
- ○ `10 20 10 20`
- ○ Compilation failure
- ○ An exception will be thrown at run time.

26.

Which of the following are benefits of an array over an `ArrayList` ?

Please select 2 options

- ☐ It consumes less memory.
- ☐ Accessing an element in an array is faster than in `ArrayList`.
- ☐ You do not have to worry about thread safety.
- ☐ It implements `Collection` interface and can thus be passed where ever a `Collection` is required.

27.

Which of the following statements about an array are correct?

Please select 1 option

- ○ An array can dynamically grow in size.
- ○ Arrays can be created only for primitive types.
- ○ Every array has a built in property named 'size' which tells you the number of elements in the array.
- ○ Every array has an implicit method named '`length`' which tells you the number of elements in the array.
- ○ Element indexing for arrays as well as for Lists starts at 0.

28.

Which of the following statements are valid ?

Please select 2 options

- [ ] `String[ ] sa = new String[3]{ "a", "b", "c"};`
- [ ] `String sa[ ] = { "a", "b", "c"};`
- [ ] `String sa = new String[ ]{"a", "b", "c"};`
- [ ] `String sa[ ] = new String[ ]{"a", "b", "c"};`
- [ ] `String sa[ ] = new String[ ] {"a" "b" "c"};`