**1.How do you swap two numbers without using a third variable in Java?**

We can swap two variables without using a third variable ,

Here we want to initialize two variables then we want to add two variable's data and put into the first variable and now subtract the value of second variable with the first variable we have added and put into the first variable , then again subtract the first variable with the respective newly subtracted second variable then finally we can get the swapped value.

FOR Example:

If a=6 and b=7

Then a=a+ b ; =13

b=a-b;=6

a=a-b;=7

then,a=7,b=6

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**2.What is collection and what are the many interfaces present in collection? Give an example for each.**

The java collections are framework is a set of classes and interfaces that implement commonly reusable collection data structures. It represents a single unit of objects .

i.e a group

Interfaces:

Set , List , Queue , Deque are the interfaces present in collection.

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**3.write the Program to print the smallest element in an array?**

```
import java.util.*;
public class SmallestArray {
        public static void main(String[] args) {
                Scanner sc=new Scanner(System.in);
                int i;
                int arr[]=new int[10];
                System.out.println("Enter array Eleement:");
                for(i=0;i<10;i++) {
                        arr[i]=sc.nextInt();
                }
                int min=arr[0];
                for(i=0;i<10;i++) {
                        if(min>arr[i]) {
                                min=arr[i];
                        }
                }
                System.out.println("The smallest element is:"+min);

        }

}
```

**Output:**

```
Enter array Element:
4
4
67
66
54
77
0
4
5
1
The smallest element is:0
----------------------------------------------------------------------------------
```

**4.In below Example, What will be the output?**

```
public class CreateArrayListExample {

public static void main(String[] args) {

    // Creating an ArrayList of String

    List<String> animals = new ArrayList<>();

// Adding new elements to the ArrayList

animals.add("Lion");

animals.add("Tiger");     animals.add("Cat");

animals.add("Dog");


    System.out.println(animals);


    // Adding an element at a particular index in an ArrayList

animals.add(2, "Elephant");
```

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


 }}
```

```
 [Lion, Tiger, Cat, Dog]
[Lion, Tiger, Elephant, Cat, Dog]
```

```
Here we want to import java.util.* package then only the can work.
-----------------------------------------------------------------------------------
```

**5.Can abstract modifier applicable for variables? Explain.**

No abstract modifiers is not applicable for variables , A variable cannot be coded because it is a primitive or reference that can only be assigned a value.

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**6.In below Example, What will be the output?**

```
class BuiltInPackage {


public static void main(String[] args) {


ArrayList<Integer> myList = new ArrayList<>(3);


myList.add(3); myList.add(2);

myList.add(1);


System.out.println("The elements of list are: " + myList);

}

}
```

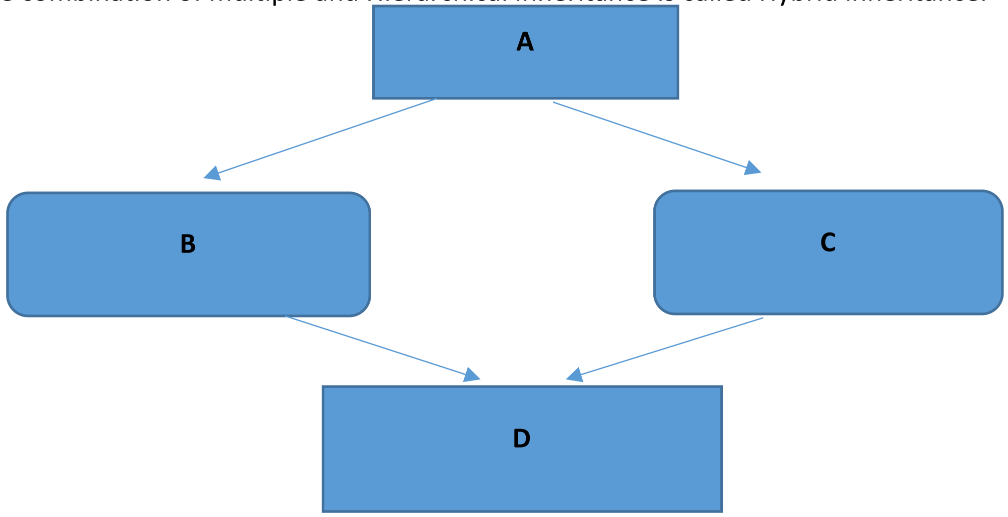
**Output:**

```
The elements of list are: [3, 2, 1]
```

```
--------------------------------------------------------------------------------
```

**7.What is hybrid inheritance? Give two examples**

The combination of multiple and Hierarchical Inheritance is called Hybrid inheritance.



Here A is a parent class B and C are child class of A which is an Example of (Hierarchical Inheritance).Then, D extends both the properties of B and C which is an Example of(Multiple Inheritance).

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**8Why multiple inheritance is not possible in Java? How can it be achieved?**

Multiple inheritance is not possible in Java because of ambiguity problem.

We can **achieve Multiple inheritance through Interface** in java.

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**9.What is SCP in Java? How does SCP differ from heap? Give an example to explain it's functionality.**

SCP means String Constant pool in which it is present inside the Heap memory . It is used to store String literals.

SCP differ from heap because if the value of the two string literal's is same then then only one value will be stored in the SCP and it is referenced by two string literals.

But, in the heap  the value and memory can be allocated using new keyword or creating object for the String. Whether if the two String values are same but the reference is created separately , here it doesn't create the same reference.

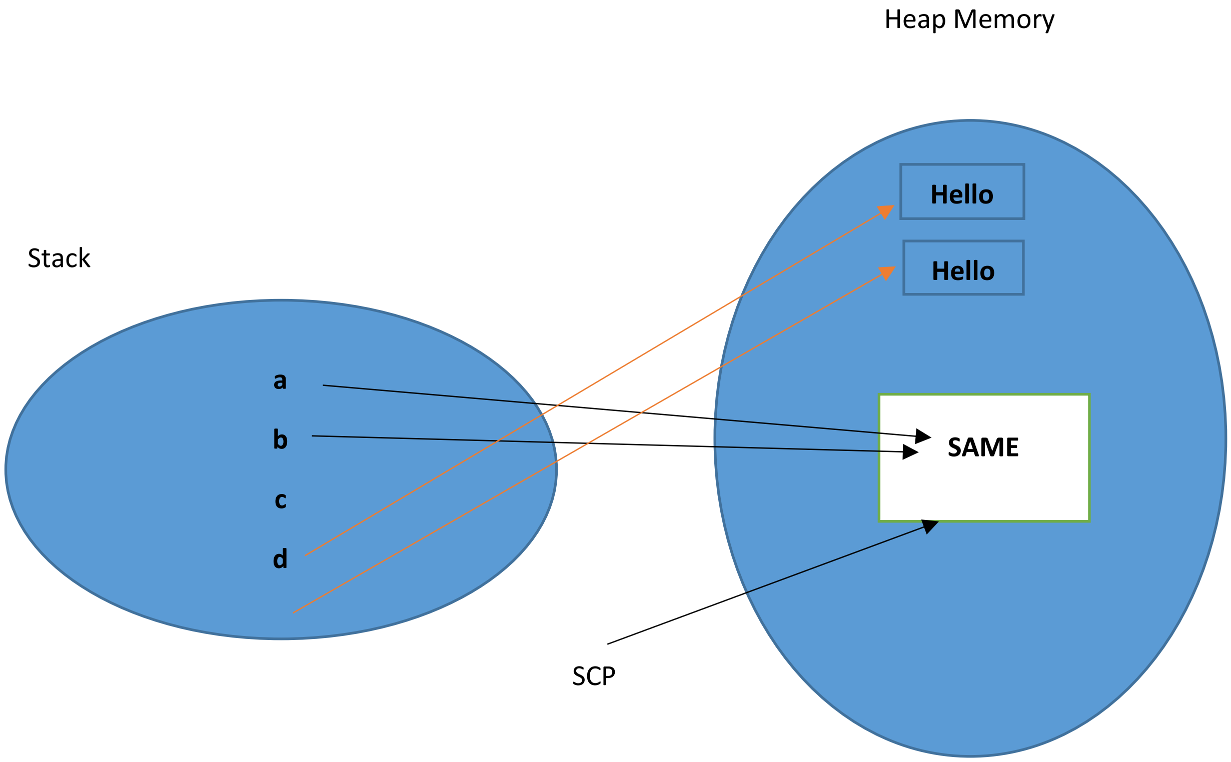
Example:

String a="SAME";

String b="SAME";

String c=new String("Hello");

String d=new String("Hello");



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**10.Can Overloaded Method Be Overridden?If Yes Explain it and give one Example.**

**YES ,** Overloaded method can be Overridden.

**Example:**

```
class A{
       void add() {
          int c=5+5;
          System.out.println(c);
       }
       void add(int a,int b) {
              System.out.println(a+b);
```

```
    }
}
class B extends A{
    void add() {
          int c=10+5;
          System.out.println(c);
        }
        void add(int a,int b) {
            System.out.println(a+b);
        }
    }
public class OverbeOverrid {
    public static void main(String[] args) {
        A obj1=new B();
        obj1.add();
        obj1.add(5, 40);
    }


}
```

Output:

```
15

45
```

Here add() is overloadeded in A and B classes. The methods are Overridden using inheritance . Thus, overloaded method can be Overridden.

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