Assignment -4

1) Explain the different ways of constructing an Arraylist?

Ans:-

```
import java.util.*;
class Arraylist {
public static void main(string args[])
{
Arraylist <string> a list = new Array.List
                            <string> ();
alist.add ("John");
alist.add ("sam");
a list.add ("Dipa");
a list.add ("Niku");
// displaying Elements.
System.out.println(alist);
// Adding "Apeksha" at the fifth position;
a.list.add (4, "Apeksha");

// displaying elements
System.out.println(alist);
}
```

o/p:- [John, sam, Dipa, Niku]
[John, sam, Dipa, Niku, Apeksha]

92) How do you increase the current capacity of an Arraylist? ensure capacity() method is used to increase the current capacity of an Arraylist However, capacity of An Arraylist is automatically increased when we try to add more element than the current

capacity. To manually increase the current capacity ensure capacity() method is used.

Ans:-

```
import java.util.*;
class ArrayList
{
Public static void main (string args[])
{
ArrayList <Integer> numbers = new ArrayList
                    <Integers> ();
// Now the capacity of the Arraylist
numberes is 10.
numbers. ensure capacity (15);
// Now the capacity will be 15
}
}
```

Q3) How do you decrease the current capacity of an Array list to the current size()?

Trim to size() method is used to trim the current capacity of array list to current size of the ArrayList Developers use the method to minimize the storage area of an ArrayList.

Ans:

```
import java.util.*;
class ArrayList
{
```

Q4) How

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Ans:

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A

```
public static void main(string args[])
{
ArrayList<Integer> numbers=new ArrayList
                <Integer>();
// now the capacity of the arrayList is
 10
 numbers.add(5);
 numbers.add(4);
 numbers.add(1);
 numbers.add(9);
 numbers.trimtosize();
// now the capacity will be 4.
 }
}
```

Q4) How do you find the number of element present in An ArrayList · using size() method returns number of elements present in An ArrayList

Ans;

```
import java.util.*;
import java.util.List;
public class Array
{
Public static void main (string orgs[])
 {
ArrayList alist = new ArrayList();
 alist.add("Peacock");
 alist.add("Parrot");
 alist.add("ROSE");
 alist.add("Mango");
 alist.add("chikoo");
```

```
System.out.println("The size of the ArrayList
                    is :" + alist.size());
    }
}
```

o/p:-

The size of the ArrayList is: 5

Q5. How do you find out whether the given Arraylist is Empty or not?

is Empty() method of Array List is used to check whether the given ArrayList empty or not. This method returns '0' if an Array List is empty.

Ans:

```
import java.util.*;
public static void main(String args[])
{
ArrayList<String> list = new ArrayList<>();
System.out.println(list.isEmpty(); //true
list.out("A");
system.out.Println(list.isEmpty());
    }
}
```

output:-

true
false
true

Q6. How do you check whether the given element is present in Arraylist or not?

using contains() method of ArrayList we can examine whether the arrayList this method return true if element is otherwise return false

Ans;

```
import java.util.*;
class ArrayList1{
Public static void main(String args[])
{
ArrayList<String> list=new Arraylist<>();
    list.add("A");
    list.add("B");
    list.add("C");
    list.add("D");
System.out.println(list.contains("A"));
system.out.println(list.contains("z"));
  }
}
```

O/P: True
False

Q7. How do you check whether the given element is present in an ArrayLister not?
using contains() method of Arraylist, we can

Q7. How do you get the position of a particular element in an Arraylist?
We can use indexof() and lastindexof() method but the position of a given element in an Arraylist. indexof() method returns index of first occurrence of a specified element

Whereas lastIndexOf() method returns index of last occurrence of a specified element in an ArrayList, if element is not found then will return -1

Ans:-

```
import java.util.*;
class ArrayList2
{
Public static void main (string args[])
{
ArrayList<String> List = new ArrangeList<>;
list.add ("Apple");
list.add ("Banana");
list.add ("John");
list.add ("sam");
list.add ("Tina");
system.out.println("The index of the
        element Apple:" + list.indexof
            ("Apple:"));
}
}
```

o/p :- The index of the element
APPle : 1

Q8 How do you convert an ArrayList to array using toArray() method returns an Array containing all elements of the ArrayList This method act as a bridge between normal arrays and collection frame work in java

Ans:

Q9.

ANS:

```
Import java.util.*;
class ArrayList1 {
public static void main (String args[])
{
ArrayList<String> list = new ArrayList<>();
    list.add("A");
    list.add("B");
    list.add("C");
    list.add("d");
// convert to Array1 array
  Array[] array = list.toArray();
System.out.println(Arrays.toString(array));
// Itrate & convert to desired type
For(Array1 'A : array ) // for each loop
{
String s = (String) o;
system.out.println(S);
}
```

o/p :- [A, B, C, D]

A

B

C

D

Q9. How do you retrive an element from a Particular position of an Arraylist ?

get() method returns an element from an ArrayList. This method takes index of the element as an argument

Ans:
```
import java.util.*;
class Array List {
public static void main(string args[])
{
ArrayList <string> list =new Array List<>(
                                Array.aslist (
        "alex","John","dough","sam"));
string Firstname = list.get(0);
String thirdname = list.get(1);

system.out.println(first name);
system.out.println(third name);
  }
  }
```
o/p : alex
dough

Q10. How do you replace a particular element in an ArrayList with the given element?

set() method replace a particular element in an Arraylist with the given element this method takes two arguments. one is the index of the element to be replaced and another one is element to be placed at that position.

Ans:

Ans:
```
import java.util.*;
Public static void main (string args[])
{
ArrayList <string> list =new Arraylist<string>();
    list.add ("EVS");
    list.add ("osy");
    list.add ("JAVA");
    list.add ("OOP");
System.out.println(list);
  list.set (2, "c++");
System.out.println(list);
  }
  }
```

O/Ps- [EVS, osy, JAVA, OOP]
[EVS, osy, c++, OOP]

Q11. How do you append an element at the end of an Arraylist ?

add() method appends an element at the end of an Arraylist. the element at the right side of that position are shifted one position right i.e. indices of right side element of that position are incresed by 1

Ans:
```
import java.util.*;
class Add{
Public static void main (string args[])
  {
```

```
ArrayList<String> color_list=new ArrayList
                        <string>(7);
 Color_list.add ("White");
 color_list add ("Black");
 colorJist add ("Red");
 color_list add ("pink");
 color list add ("yellow");

 color_list. add (1,"Blue");
  For(int i=0; i<7 ;i++)
 {
System.out.println(color_list. get(i). to
                        string(i));
 }
}
```

O/P:- White
Blue
Black
Red
pink
Yellow.

Q12. How do you insert an element at a particular position of an ArrayList?

Ans: add() method which takes index and an element at a particular position of an ArrayList, the elements at the right side of that Position are shifted one

Position right i.e. indices Position are increased by 1

Ans:
```
import java.util.*;
    class Add {
public static void main(string args[])
  {
Array List<Integer> list = new ArrayList<Integer>();
    list.add(15);
    list.add(22);
    list.add(30);
    list.add(40);
    list.add(3,35);
  System.out.println(list);
  }
  }
```

output :- Javac Add.Java

Java Add

[15, 22, 30, 35, 40]

Q13. Howdo you remove an element from a particular position of an ArrayList?

removes() method which takes int type as an argument is used to remove an element from a particular position of an ArrayList.

Ans:
```
import java.util.*;
    class Demo
      {
```

Public static void main(String args[])
Arraylist <String> list = new ArrayList
<String> (Array as list ("
John", "Dipa", "Tima", "sima");
System.out.println(list);
list.remove(1);
System.out.println(list);
}
}

O/P:-
[John, Dipa, Tima, sima]
[John, Tima, sima]

Q14. How do you remove the given element from an Arraylist?

remove (objectobj) method removes the first occurrence of the specified element ('obj'; IF that element exist Arraylist will be unchange.

Ans:

```
import java.util.*;
Public class removeobj
{
public static void main (String args[])
{
Arraylist <string> namelist = new Array
list <string> (Arrays.as list ("alex",
"brian", "charles", "alex"));
```

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```
System.out.println(names.list);
namesList.remove("Dipali");
System.out.println(namesList);
namesList.remove("alex");
system.out.println(namesList);
}
}
```

O/P:

[alex, brian, charles, alex]
[Dipali, brian, charles, alex]

Q15. How do you remove all element of an Arraylist at a time? clear() method removes all elements of an ArrayList, ArrayList will be empty after this method is executed.

Ans:

```
import java.util.Arraylist;
Public class removeall
{
public static void main(string args[])
{
Arraylist<string> list = new Arraylist();
list.add("abc");
list.add("PQR");
list.add("DEF");
list.add("xyz");
System.out.println("Array list:"+list);
system.out.println("size of Arraylist"
+ list);
```

```
system.out.println("size of ArrayLis
        + list.size());
}
}
```

Q16. How do you retrive a portion of an Arraylist. sublist() method return a veiw of a portion of an ArrayList in the given range. the returned sublist will be reflected in original ArrayList or vice-versa.

Ans:-

```
import java.util.ArrayList;
public class get
{
Public static void main (string args[])
{
Array list <Integer> arrlist = new ArrayList
                    <integer> (5);
    arrlist.add (15);
    arr list.add (22);
    arr list.add (30);
    arr list.add (40);
  For( Integer number: arrlist)
{
system.out.println("Number =" +
        number);
}
int  retval = arrlist.get(2);
```

system

}
}
o/p :-

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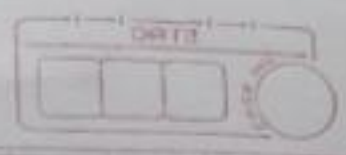

System.out.println("Retrieved element is:"
+ retval);
}
}

O/P :- Number = 15
22
30
40

Retrived element is : 30

Q17. How do you join two Array list?

We can use addAll() method which takes collection type as an argument to join two ArrayList this method appends all elements of the passed collection to the end of the invoking collection.

Ans:
```
import java.util.Arraylist;
public class set
{
public static void main(string args[])
{
ArrayList<Integers> arrlist = new ArrayList
<Integer>(5);
arrlist.add(15);
arrlist.add(20);
arrlist.add(25);
arrlist.add(22);
for(integer number: arrlist)
{
```

```
System.out.println("Number =" +numb
 {
arrlist.set(2,55);
system.out.println("printing new list");
  For( integer number : arrlist)
{
system.out.println(" Number" +number
 }
 }
 }
 }
```

O/P :- Number : 15
20
25
22

Printing new list : 15
20
55
25
22

Q18. How do you insert more than one element at a particular position of an Arrylist ?

Ans:

Ans:

```
import java.util.Arraylist;
Public static class Position
 {
Public Static Void main (String args[])
{
ArrayList<Integer> arrlist = new Arraylist
                    <Integer>(5));
 arrlist.add(15);
 arrlist.add(22);
 arrlist.add(30);
 arrlist.add(40);
System.out.println("Inital ArrayList");
 For(Integer numbe : arrlist)
 {
System.out.println("Number=" +number);
 }
 arrlist.add(2,25);
System.out.println("after Inserting the
 new element at index 2 of arrlist:");
 For( integer number : arrlist)
  {
system.out.println("Number" :+ nu
                -mber);
  }
  }
  }
```

O/P:

```
Initial Array list: 15
                    22
                    30
                    40
```

After inserting the new element at index 2 of arrylist

Number : 15

22

25

30

40