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ARRAY LIST/ DYNAMIC ARRAY

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The Array List class is a resizable array where as size of an array cannot modify (i.e. fixed Array) where as from an Array List we can add/remove element values.

Syntax:

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ArrayList<Data type>obj=new ArrayList<Data types>();

Following are the methods provided by ArrayList

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(i) add(): Method used to assign value

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Syntax:

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obj.add(value);

(ii) size(): Method we can use to find no. of values in an ArrayList

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Syntax:

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obj.get(index);

(iii) get(): Method we can use to read value based on index

Syntax:

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obj.get(index);

index starts with zero

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Ex. Create an ArrayList to assign values

ArrayList<String>myCars=new ArrayList<String>();

// To assign values

myCars.add("Audi");

myCars.add("Benz");

myCars.add("BMW");

// System.out.println(myCars);

// To find number of values

System.out.println(myCars.size());

// To read value based on index

System.out.println(myCars.get(0)); // Audi

System.out.println(myCars.get(1)); // Benz

System.out.println(myCars.get(1));

System.out.println(myCars.get(2));

// System.out.println(myCars.get(3));

// To read values using for -each

for (String myCar : myCars)

{

System.out.println(myCar);

// To print horizontally

System.out.println(myCars);

}

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(iv) set(): method we can use to change value

Syntax: obj.set(index,new value);

(v) remove(): to remove the element/value

Syntax: obj.remove(index);

(vi) clear(): To clear all the values from ArrayList

Syntax: obj.clear();

Note:

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Collections class we can use to sort the value in ArrayList

Syntax:

collections.sort(obj);

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Ex: Write script for ArrayList Declaration

ArrayList<String>myCars=new ArrayList<String>();

// To assign values

myCars.add("Audi");

myCars.add("Benz");

myCars.add("BMW");

System.out.println(myCars); // [Audi,Benz,BMW]

// To change value "Audi" to "XUV300"

myCars.set(0, "XUV300");

System.out.println(myCars); // [XUV300,Benz,BMW]

// To sort values

Collections.sort(myCars);

System.out.println(myCars); // [BMW,Benz,XUV300]

System.out.println(myCars.size()); //3

// To remove value

myCars.remove(2);

System.out.println(myCars.size()); //2

// To clear the values

myCars.clear();

System.out.println(myCars.size()); // 0

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\*\*\* Commonly asked interview questions on oriented Java Programs \*\*\*\*

Ex:1 Write program for multiplication from 1 to 10

Script: // to read user input

public class MultiplicationEx {

public static void main(String[] args) {

// to read user input

Scanner sc= new Scanner(System.in);

System.out.println("Enter any number");

int n=sc.nextInt();

sc.close();

// to print table upto 10

for (int i=1;i<=10;i++)

{

// 5\*1-5

System.out.println(n + " \* " +i +" = " +(n\*i)); // Spaces within the string will cause space problem & not in between spaces

}

}

}

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Ex-2 : Write program to display Even numbers up to 20

If that number is divisible by 2 then it is even 2,4,6,8,10,12,14,16,18,20

public class EvenNumberEx {

public static void main(String[] args) {

// Write program to display Even numbers up to 20

int limit=20;

System.out.println("Printing even numbers 1 to "+limit);

for (int i=1;i<=limit;i++)

{

// If number is divisible by 2 then it is even

if ((i%2)==0){

System.out.println(i +""); // System.out.println(i); System.out.println(i +",");

}

}

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Ex-3 : Write program to display odd numbers up to 20

Script: public class OddNumberEx {

public static void main(String[] args) {

// Write program to display odd numbers up to 20

int limit=20;

System.out.println("Printing Odd Numbers "+limit);

for (int i=1;i<=limit;i++)

{

// If the no is not divisible by 2 then it is odd

if (i%2!=0)

{

System.out.println(i +""); // System.out.println (i); System.out.println (i +",");

}

}

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Ex-4 \*\*\* Write program to display prime numbers between 1 to 20

A prime number can be divided evenly only by 1 and itself

Script: public static void main(String[] args) {

// Write program to display prime numbers between 1 to 20

int cnt;

System.out.println("Printing numbers 1 to 20");

// loop through the numbers one by one

for (int n=1;n<=20;n++)

{

cnt=0;

// to check if the number is prime

for (int i=1;i<=n;i++)

{

if (n%i==0) {

cnt++;

}

}

if (cnt==2)

{

System.out.println(n); // System.out.println(n +",")

}

}

}

}

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Ex-5: Write program to display fibonacci series of numbers upto 100

0,1,1,2,3,5,8,13,21,................

each number is equals to the sum of the preceding two numbers whih can start with zero or one

Script: public static void main(String[] args) {

// Write program to display fibonacci series of numbers upto 100

int a=0;

int b=1;

System.out.println(a);

System.out.println(b);

int c=a+b;

while (c<=100)

{

System.out.println(c);

// Swap the values

a=b;

b=c;

c=a+b;

}

}

}

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Ex-6 : Write program to find factorial for a given number

5 factorial is 1\*2\*3\*4\*5 = 120

Script: public static void main(String[] args) {

// Write program to find factorial for a given number

// to read user input

Scanner sc=new Scanner (System.in);

System.out.println("Enter any number");

int number=sc.nextInt();

sc.close();

// to factorial

int fact=1;

for (int i=1;i<=number;i++)

{

fact=fact\*i;

System.out.println("Factorial of "+fact);

}

}

}

=====================================================================END OF CLASS=====================================================================================