**Alva’s Institute of Engineering and Technology**

**Mijar, Moodbidri, Managalore**

**Department of CSE**

**Subject: Object oriented Concepts- 15 CS 45**

**Class: IV B.E – CSE A sec and B sec**

**Assignment III Evaluation Key**

1. **Java example program to remove all vowels from a String**

package inheritanceInterviewPrograms;

public class RemoveVowels {

    /\*\*

     \* @www.instanceofjava.com

     \* @String interview programs asked in interviews

     \* @Remove vowels from a string in java

     \*/

 public static void main(String[] args) {

        String str = "RemoveVowels";

        String resustr = str.replaceAll("[aeiouAEIOU]", "");

        System.out.println(resustr);

    }

}

**o/p**

RmvVwls

1. [**Print 1 to 10 without using recursion in java?**](http://www.instanceofjava.com/2014/12/print-1-to-10-without-using-loop-in-java.html)

package com.instanceofjavaTutorial;

class PrintDemo{

public static void recursivefun(int n)

{

  if(n <= 10) {

       System.out.println(n);

         recursivefun(n+1);   }

}

public static void main(String args[])

{

recursivefun(1);

 }

}

Output:

1

2

3

4

5

6

7

8

9

10

1. **Write a Basic java example  program to find area of circle**

package com.BasicJavaProgramsExamples;

import java.util.Scanner;

public Class AreaOfCirle{

public static void main(String args[]) {

int radius = 0;

Scanner in= new Scanner(System.in);

System.out.println("Please enter radius of a circle");

    radius=in.nextInt();

/\*

 \* where r is a radius of a circle then Area of a circle is

 \*Area= pi \* r \* r

 \*

 \*/

    double area=Math.PI\* radius \* radius;

    System.out.println("Area of the circle ="+area);

}

}

**Output:**

Please enter radius of a circle

23

Area of the circle =1661.9025137490005

1. [**Program to print prime numbers in java**](http://www.instanceofjava.com/2014/12/program-to-print-prime-numbers-in-java.html)

public class primenumbers {

public static void main(String[] args) {

int num=50;

int count=0;

for(int i=2;i<=num;i++){

count=0;

for(int j=2;j<=i/2;j++){

if(i%j==0){

count++;

break;

}

}

 if(count==0){

  System.out.println(i);

}

}

}

}

**Output:**

2

3

5

7

11

13

17

19

23

29

31

37

41

43

47

1. **Program: Write a program to reverse a string using recursive algorithm**

Description:

You should not use any string reverse methods to do this.

|  |  |
| --- | --- |
| |  | | --- | | package com.java2novice.algos;  public class StringRecursiveReversal {      String reverse = "";      public String reverseString(String str){          if(str.length() == 1){              return str;          } else {              reverse += str.charAt(str.length()-1)                      +reverseString(str.substring(0,str.length()-1));              return reverse;          }      }      public static void main(String a[]){          StringRecursiveReversal srr = new StringRecursiveReversal();          System.out.println("Result: "+srr.reverseString("Java"));      }  } | |

Output:

Result: avaJ

|  |
| --- |
| 1. **Write a program to reverse a number using numeric operations. Below example shows how to reverse a number using numeric operation**s**.** |

|  |  |
| --- | --- |
| |  | | --- | | public class NumberReverse {      public int reverseNumber(int number){          int reverse = 0;          while(number != 0){              reverse = (reverse\*10)+(number%10);              number = number/10;          }          return reverse;      }      public static void main(String a[]){          NumberReverse nr = new NumberReverse();          System.out.println("Result: "+nr.reverseNumber(178));      }  } | |

Output:

Result:871

1. **Program: Write a program to convert decimal number to binary format.**

package com.java2novice.algos;

public class DecimalToBinary {

    public void printBinaryFormat(int number){

        int binary[] = new int[25];

        int index = 0;

        while(number > 0){

            binary[index++] = number%2;

            number = number/2;

        }

        for(int i = index-1;i >= 0;i--){

            System.out.print(binary[i]);

        }

    }

    public static void main(String a[]){

        DecimalToBinary dtb = new DecimalToBinary();

        dtb.printBinaryFormat(25);

    }

}

Output:

11001

1. **Program: Write a program to find top two maximum numbers in a array**

Description:

Write a program to find top two maximum numbers in the

given array. You should not use any sorting functions. You

should iterate the array only once. You should not use any

kind of collections in java.

package com.java2novice.algos;

public class TwoMaxNumbers {

    public void printTwoMaxNumbers(int[] nums){

        int maxOne = 0;

        int maxTwo = 0;

        for(int n:nums){

            if(maxOne < n){

                maxTwo = maxOne;

                maxOne =n;

            } else if(maxTwo < n){

                maxTwo = n;

            }

        }

        System.out.println("First Max Number: "+maxOne);

        System.out.println("Second Max Number: "+maxTwo);

    }

    public static void main(String a[]){

        int num[] = {5,34,78,2,45,1,99,23};

        TwoMaxNumbers tmn = new TwoMaxNumbers();

        tmn.printTwoMaxNumbers(num);

    }

}

Output:

First Max Number: 99

Second Max Number: 78

1. Program: How to swap two numbers without using temporary variable?

package com.java2novice.algos;

public class MySwapingTwoNumbers {

    public static void main(String a[]){

        int x = 10;

        int y = 20;

        System.out.println("Before swap:");

        System.out.println("x value: "+x);

        System.out.println("y value: "+y);

        x = x+y;

        y=x-y;

        x=x-y;

        System.out.println("After swap:");

        System.out.println("x value: "+x);

        System.out.println("y value: "+y);

    }

}

Output:

Before swap:

x value: 10

y value: 20

After swap:

x value: 20

y value: 10

1. **Program: Write a program to convert binary to decimal number.**

|  |  |
| --- | --- |
| |  | | --- | | package com.java2novice.algos;  public class BinaryToDecimal {      public int getDecimalFromBinary(int binary){          int decimal = 0;          int power = 0;          while(true){              if(binary == 0){                  break;              } else {                  int tmp = binary%10;                  decimal += tmp\*Math.pow(2, power);                  binary = binary/10;                  power++;              }          }          return decimal;      }      public static void main(String a[]){          BinaryToDecimal bd = new BinaryToDecimal();          System.out.println("11 ===> "+bd.getDecimalFromBinary(11));          System.out.println("110 ===> "+bd.getDecimalFromBinary(110));          System.out.println("100110 ===> "+bd.getDecimalFromBinary(100110));      }  }  Output:  11 ===> 3  110 ===> 6  100110 ===> 38 | |

1. **Program: Write a program to find sum of each digit in the given number using recursion. -**

package com.java2novice.algos;

public class MyNumberSumRec {

    int sum = 0;

    public int getNumberSum(int number){

        if(number == 0){

            return sum;

        } else {

            sum += (number%10);

            getNumberSum(number/10);

        }

        return sum;

    }

    public static void main(String a[]){

        MyNumberSumRec mns = new MyNumberSumRec();

        System.out.println("Sum is: "+mns.getNumberSum(223));

    }

}

1. **Java example program to demonstrate super call execution from sub class constructor to super class constructor**
2. package com.superkeywordinjava;
3. public Class SuperDemo{
5. SuperDemo(){
6. System.out.println("Inside super class constructor");
7. }
9. }
10. package com.superkeywordinjava;
11. public Class Subdemo extends SuperDemo{
13. Subdemo(){
14. System.out.println("Inside sub class constructor");
15. }
17. public static void main (String args[]) {
18. Subdemo obj= new Subdemo();

21. }
22. }

**Output:**

1. Inside super class constructor
2. Inside sub class constructor
3. **Java interview programming question on this keyword.**
4. package thiskeywordinterviewprograms.java;
5. public class ThisDemo {
7. int a;
8. int b;
10. ThisDemo(int a, int b){
12. this.a=a;
13. this.b=b;
15. }
17. public static void main(String[] args) {
19. ThisDemo obj = new ThisDemo(10, 20);
21. System.out.println(obj.a);
22. System.out.println(obj.b);
23. }
25. }

o/p

1. 10
2. 20
3. [Super keyword java programs for interview](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
4. [package com.superkeywordinjava;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
5. [public Class SuperDemo{](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
7. [int a,b;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
9. [}](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
10. [package com.superkeywordinjava;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
11. [public Class Subdemo extends SuperDemo{](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
12. [int a,b;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
13. [void disply(){](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
14. [super.a=10;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
15. [super.b=20;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
17. [System.out.println(a);](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
18. [System.out.println(b);](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
19. [System.out.println(super.a);](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
20. [System.out.println(super.b);](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
22. [}](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
24. [public static void main (String args[]) {](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
25. [Subdemo obj= new Subdemo();](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
27. [obj.a=1;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
28. [obj.b=2;](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
30. [obj.disply();](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)

33. [}](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
34. [}](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)

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1. [1](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
2. [2](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
3. [10](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)
4. [20](http://www.instanceofjava.com/2016/07/super-java-programs-for-beginners.html)

22 sorting through selection sort

/ Java program for implementation of Selection Sort

class SelectionSort

{

    void sort(int arr[])

    {

        int n = arr.length;

        // One by one move boundary of unsorted subarray

        for (int i = 0; i < n-1; i++)

        {

            // Find the minimum element in unsorted array

            int min\_idx = i;

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

                if (arr[j] < arr[min\_idx])

                    min\_idx = j;

            // Swap the found minimum element with the first

            // element

            int temp = arr[min\_idx];

            arr[min\_idx] = arr[i];

            arr[i] = temp;

        }

    }

    // Prints the array

    void printArray(int arr[])

    {

        int n = arr.length;

        for (int i=0; i<n; ++i)

            System.out.print(arr[i]+" ");

        System.out.println();

    }

    // Driver code to test above

    public static void main(String args[])

    {

        SelectionSort ob = new SelectionSort();

        int arr[] = {64,25,12,22,11};

        ob.sort(arr);

        System.out.println("Sorted array");

        ob.printArray(arr);

    }

}

Output:

Sorted array:

11 12 22 25 64

25 Volumes using method overloading

**package** basics;

**class** Overload {

**double** volume(**float** l, **float** w, **float** h) {

**return** l \* w \* h;

}

**double** volume(**float** l) {

**return** l \* l \* l;

}

**double** volume(**float** r, **float** h) {

**return** 3.1416 \* r \* r \* h;

}

}

**public** **class** VolumeUsingMethodoverloading {

**public** **static** **void** main(String args[]) {

Overload overload = **new** Overload();

**double** rectangleBox = overload.volume(5, 8, 9);

System.***out***.println("Volume of ractangular box is " + rectangleBox);

System.***out***.println("");

**double** cube = overload.volume(5);

System.***out***.println("Volume of cube is " + cube);

System.***out***.println("");

**double** cylinder = overload.volume(6, 12);

System.***out***.println("Volume of cylinder is " + cylinder);

}

}

o/p

Volume of ractangular box is 360.0

Volume of cube is 125.0

Volume of cylinder is 1357.1712

**Subject handler**

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