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CSA0993
programming in JAVA for Application Development.

## Assignment-5[Day5]

1) prime and composite numbers:

```
import java.util.Scanner;
public class main{
   public static void main(String[] args){
     int[] arr = {4, 54, 29, 71, 7, 59, 98, 23};
     int com = 0, pri = 0;
     for(int num : arr){
       int count =0;
      for(int i=1; i<=num; i++){
         if(num % i==0) count++;
      }
       if(count >2) com++;
         else if (count ==2) pri++;
     }
     System.out.print(" composite Numbers: %d% prime
         numbers: %d%n %", com, pri);
   }
}
```

OUTPUT:

composite Numbers: 3
prime Number: 5.

8) Nth maximum number and Nth minimum number in an array and then find the sum of it.

```
import java.util.Arrays;
public class main {
    public static void main(String[] args){
        int[] arr = {14, 16, 18, 87, 36, 25, 89, 34};
        Arrays.sort(arr);
        int m=1; n=3;
        int max = arr[arr.length-m];
        int min = arr[n-1];
        System.out.printf("%d maximum number = %d n%d
    minimum number = %d %n sum = %d %n difference =
    %d %n", m, max, n, min, max+min, max-min);
    }
}
```

OUTPUT:

1 maximum number = 89

3 minimum number = 25

sum = 114

Difference = 64.

9) Write a program to print the total number ATM amount machine with the condition applied.

```
public class ATM Balance calculator {
    public static void main (String[] args){
        int[] denominations = {500, 100, 200, 2000};
        int[] quantities = {4, 20, 32, 1};
        int total Balance=0;
```

```
for (int i=0; i < denominations.length, i++){
    totalBalance += denomination[i] * quantities[i];
}
System.out.print(" total Available Balance in ATM :$" +
totalBalance);
}
}
```

OUTPUT:

total Available Balance in ATM : $12400.

11) Write a program using choice to check if the given string (or) number is palindrome or not.

```
import java.util.scanner;
public static palindromechecker{
    public static void main(String[]args){
        Scanner scanner = new scanner(System.in);
        System.out.print("Enter a string to check if is a
palindrome:");
        string reversed = new string Builder(input).reverse().
            tostring();
        if (input.equals(reversed)){
            System.out.println("The input string is a
                palindrome.");
        }
        else {
        System.out.println("The input string is not a
            palindrome.");
    }
```

```
    }
}
```

OUTPUT:

Enter a string to check if it is a palindrome: mamadadmam
The input string is a palindrome.

5) Write a program to convert Decimal number equivalent to Binary number and octal numbers:

```
import java.util.Scanner;
public class NumberConverter{
    public static void main (String[]args){
        int dec = 15;
        string bin = integer.toBinaryString(dec);
        string out = Integer.toOctalString(dec);
        System.out.println("Binary number = " + bin);
        system.out.print ("octal number = " +out);
    }
}
```

OUTPUT:

Binary number = 1111
octal number = 17.

6) Calculate the bonus that has to be given to the employee & print that the employee will get.

```
import java.util.scanner;
public class Employee Bonus{
  public static void main(String []args){
    scanner input = new scanner (system.in);
    system. out.print (" Enter the grade of employee (A/B); ");
    char grade = input.next().char At(0);
    system.out.print' (Enter the salary of employee);
    double salary = input.next Double();
    double bonus = 0;
  if (grade == 'A'){
      bonus = salary * 0.05;
    }
    else if(grade == 'B'){
      bonus = salary * 0.10;
    }
    else {
      system. out. print ln("valid grade.");
      input. close();
      return;
    }
  if (salary < 10000){
    bonuse += salay * 0.02;
  }
```

```
        System.out.print("salary = $ " + salary);
        System.out.println(" Bonus = $ " + bonus);
        System.out.println("Total to be paid = $ " + (salary + bonus));
    }
}
```

Input & Output:

```
Enter the grade of employee (A/B): A
Enter the salary of employee: 8000
salary = $ 8000.0
Bonus = $ 560.0
Total to be paid = $ 8560.0
```

7) Write a program to print the first n perfect numbers:

```
import java.util.Scanner;
public class perfectNumber{
    public static void main(String[] args){
        Scanner input = new Scanner(System.in);
        System.out.print("Enter the no. of perfect number
    to print ");
        int n = input.nextInt();
        for(int j=2, count=0; count<n; j++){
        int sum = 1;
        for(int i=2; i<=j/2; i++) if(j%i==0) sum+=i;
        if(sum==j){
            System.out.print(j+" ");
```

```
            count++;
        }
    }
}
}
```

Input: Enter the no. of perfect number toprint =1

output: 6.

8) write a program to print to first n pefect numbar.

```
import java.util.scanner;
public class static Numbers{
    public static void main(String[] args){
        Scanner input = new Scanner(system.in);
        System.out.print("Enter the no. of perfect number to
    print:");
        int n= input.nextInt();
        for(int j=2 , count =0; count <n; j++){
            if (sum==j){
                system.out.print(j+" ");
                count ++;
            }
        }
    }
}
```

Input: Enter the no. of perfect numbers to print:1

Output: 6

a) write a program to enter the marks of a student in four subjects.

```
import. java. util. scanner;
public class studentMarks {
    public static void main (String [] args) {
        int a1 = 90;
        int a2 = 91;
        int a3: 92;
        int a4 : 93;
       int total =a1 + a2 + a3 + a3;
       float agg = total / 4f;
       system. out. println ("total =" + total);
       system. out. print ("Aggregate =" + agg);
       if (agg >75) {
            system. out. print ln ("DISTINCTION");
       } else if (agg >=60) {
           system. out. print ("FIRST DIVISION");
       } else if (agg >=50) {
           system. out. print ("SECOND DIVISION");
       } else if (agg >= 60) {
           system. out. print ("THIRD DIVISION");
       } else {
          system. out. print ("Fail");
       }
    }
}
```

Output:

Total = 366

Aggregate = 91.5

DISTINCTION:

10) Write a program to calculate tax from given condition

```
import java.util.scanner;
public class tax calculator;
    public static void main (String [] args){;
        Scanner input = new scanner (system.in);
        system.out.print ("Enter your income);
        int income = input.nextIn ();
        float tax;
        if income <= (50000) {
            System.out.println ("NO tax);
        }else {
            tax = Math.max (0, Math.min (income, 30000) - 15000)
                                        * 0.10f)
            + Math.max (0, (Math.min (income, 500000) - 3000 0) * 0.20f)
            + Math.Max (0, (income - 50 0000) * 0.3f);
            System.out.print ("tax =" + tax);
        }
    }
}
```

Input:

Enter your income : 200000

output: tax = 5000.0