

1. Write a program to find out all the armstrong numbers within a given range using a method named printArmstrongNumber( int start, int end) by taking input from the user. The program should print the Armstrong number in a given range starting from "start" and ending with "end".

Note: input should be taken from the keyboard. Use a loop to calculate the Armstrong number from "start" to "end". Also use loops to calculate the cube of a number. Do not use the Math.pow() function.

```
package com.learning.looping; //declaring a package

import java.util.Scanner; // importing java package

public class AllArmstrongNumbersDisplay //creating a class name with
AllArmstrongNumbersDisplay
{
    public static void main(String[] args) {

        Scanner obj = new Scanner(System.in); //creating a scanner obj to
enter user input from keyboard
        int start, end, sum, r, count, n,n1, p;
        boolean flag=false;

        System.out.println("Enter Start limit ");
        start=obj.nextInt();

        System.out.println("Enter End limit ");
        end=obj.nextInt();

        for(int i=start;i<=end;i++)
        {
            n1=n=i;
            count=0;
            //count no. of digits
            while(n>0)
            {
                n=n/10;
                count++;
            }
            sum=0;
            p=1;
            while(n1>0)
            {
                r=n1%10;
                p=1;
                for(int j=1;j<=count;j++)
                    p=p*r;
                sum=sum+p;
                n1=n1/10;
            }

            if(sum==i)
            {
                System.out.println( i);
                flag=true;
            }
        }
    }
}
```

```

        }

    }

    if(flag==false)
        System.out.println("from "+ start + " To "+ end + " No
armstrong numbers found");

    }

}

```

Output:

```

Enter Start limit
1
Enter End limit
1000
1
2
3
4
5
6
7
8
9
153
370
371
407

```

2. Write a program to calculate the gross salary of a group of employees. Basic salary should be taken from the user.

If the basic salary is greater than 15000 ,HRA=20% and DA=60% will be given, else HRA=3000 and DA 70% will be given to the employee.

Note:Input of basic salary will be taken from the keyboard. After calculating the salary of one employee, the program will ask for the user's choice as int. If "-1" is entered then the loop will continue and the loop will exit for other int inputs.

```

package com.learning.looping;

import java.util.Scanner;

public class Employee_paybill {

```

```

public static void main(String[] args) {

    Scanner obj = new Scanner(System.in);

    float basic, hra, da;
    int choice;

    do
    {
        System.out.println("Enter basic pay");
        basic =obj.nextFloat();
        if(basic>15000)
        {
            hra=basic*20/100;
            da= basic*60/100;

        }
        else
        {
            hra=3000;
            da=basic*70/100;
        }

        System.out.println("HRA "+ hra);
        System.out.println("DA "+ da);

        System.out.println("Do you want to continue for another
Employee if yes input -1");
        choice=obj.nextInt();

        if(choice!= -1)
            break;

    }while(choice== -1);

    System.out.println("End of execution.");

}
}

```

Output:

```

Enter basic pay
18000
HRA 3600.0
DA 10800.0
Do you want to continue for another Employee if yes input -1
-1
End of execution

```

3. Write a program to count and print the total number of odd and even numbers from user inputs. Program will ask for user inputs in a loop.

```

import java.util.Scanner; //importing a util package

public class OddEvenCounter //creating a class with name OddEvenCounter
{
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        int evenCount = 0;
        int oddCount = 0;

        while (true) //checking the expression using while loop
        {
            System.out.print("Enter a number (or 0 to exit): ");
            int number = scanner.nextInt();

            if (number == 0) {
                break; // Exit the loop if the user enters 0
            }

            if (number % 2 == 0) {
                evenCount++;
            } else {
                oddCount++;
            }
        }

        System.out.println("Total even numbers: " + evenCount);
        System.out.println("Total odd numbers: " + oddCount);

        scanner.close();
    }
}

```

Output:

```

Enter a number (or 0 to exit): 3
Enter a number (or 0 to exit): 2
Enter a number (or 0 to exit): 4
Enter a number (or 0 to exit): 5
Enter a number (or 0 to exit): 0
Total even numbers: 2
Total odd numbers: 2

```