LAB_ANP_C6339_CLASSES_ StudenID:AF0339439

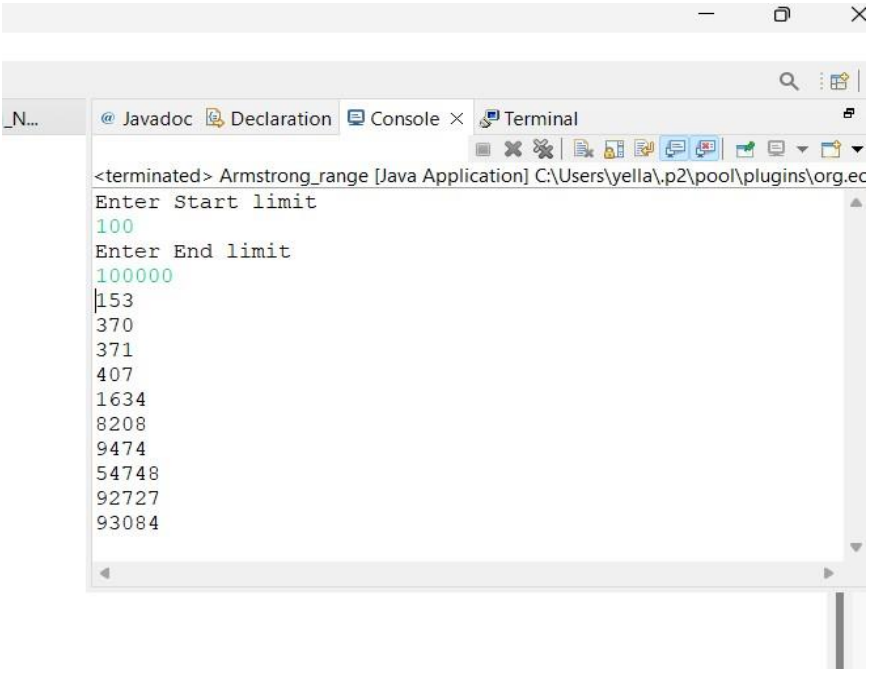
Assignment-1. Write a program to find out all the armstrong numbers within a given range using a method named print Armstrong Number(int start, int end) by taking input from the user. The program should print the Armstrong number in a given range starting from "start" and ending with "end". Armstrong Number Example: 153 1 3+5 3+3 3 =153 (Number which is equal to the sum of the cubes of its digits) 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.

Program:

```
package javaprograms;
import java.util.Scanner;
public class Armstrong_range {

public static void main(String[] args) {


                    int start, end, sum, r, count, n,n1, p;
                    boolean flag=false;
                    Scanner obj = new Scanner(System.in);    // scanner class
for user input

                    System.out.println("Enter Start limit "); //enter starting
number
                    start=obj.nextInt();

                    System.out.println("Enter End limit "); //enter ending
number
                    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;//sum of the digits
                          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:

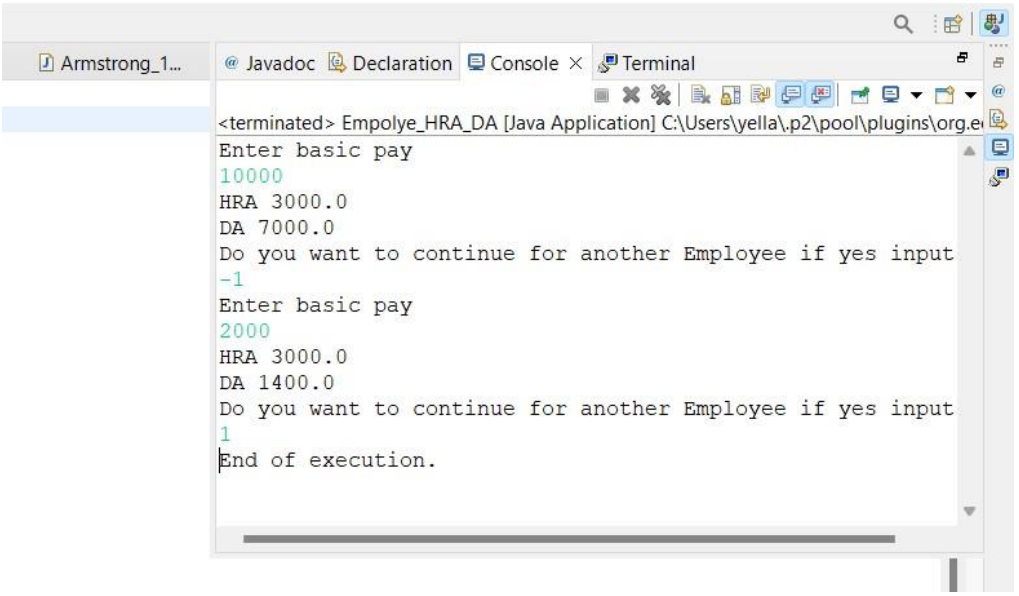


Assignment_2:

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 javaprograms;

import java.util.Scanner;

public class Empolye_HRA_DA {

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"); // input from user input
                 basic =obj.nextFloat();
                 if(basic>15000)
                 {
                       hra=basic*20/100;   //if employ pay bill below 15000 hra
will be hra=basic*20/100;
                       da= basic*60/100;   //if employ pay bill below 15000 da
will be da= basic*60/100;

                 }
                 else
                 {
                       hra=3000;        //if employ pay bill   hra 3000 will be
hra=basic*20/100;
                       da=basic*70/100; //if employ pay bill da 3000   will be
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:



Assignment 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. Loop will terminate if -1 is entered as input.

Program:

```
package Basic_Programs;

import java.util.Scanner;

public class Even_Odd {

   public static void main(String[] args)
   {
         int even_Count = 0,odd_Count = 0;

        Scanner sc = new Scanner(System.in);

      do
      {
                System.out.print("Enter a number -1 to exit: "); //user input
when  -1 to exit program
                int num = sc.nextInt();


                if (num == -1)
                {
                    break;
                }

                if (num % 2 == 0)
                {
                    even_Count++;     //count the even numbers
```

```
            }
            else {
                odd_Count++;       // count the odd numbers
            }
        }while (true);


        System.out.println("Total even numbers: " + even_Count);
        System.out.println("Total odd numbers: " + odd_Count);



        }
}
```

Output: