Assignment

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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.

Program

```
package javapractice;
import java.util.Scanner;

public class AllArmstrongNumbersDisplay {
public static void main(String[] args) {
Scanner obj = new Scanner(System.in);
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
200
Enter End limit
1000
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 javapractice;
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
13000
HRA 3000.0
DA 9100.0
Do you want to continue for another Employee if yes input -1
```

```
Enter basic pay
13000
HRA 3000.0
DA 9100.0
Do you want to continue for another Employee if yes input -1
-1
Enter basic pay
18000
HRA 3600.0
DA 10800.0
Do you want to continue for another Employee if yes input -1
```

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.

```
package javapractice;
import java.util.Scanner;
```

```
public class Odd_Even {

public static void main(String[] args) {
// TODO Auto-generated method stub
Scanner sc = new Scanner(System.in);

int EvenCount = 0;
int OddCount = 0;
int choice;
do
{

System.out.print("Enter the number of integers: ");
int n = sc.nextInt();

for (int i = 1; i <= n; i++) {
System.out.print("Enter integer " + i + ": ");
int num = sc.nextInt();

if (num % 2 == 0) {
EvenCount++;
} else {
OddCount++;
}
}

System.out.println("Total even numbers: " + EvenCount);
System.out.println("Total odd numbers: " + OddCount);
System.out.println("Do you want to continue for next integers if yes
input -1:");
choice=sc.nextInt();
if(choice!= -1)
break;
}
while(choice== -1);
System.out.println("End of execution.");
}
}
```

Output:

```
Enter the number of integers:
4
Enter integer 1:
8
Enter integer 2:
5
Enter integer 3:
1
Enter integer 4:
7
Total even numbers: 1
Total odd numbers: 3
Do you want to continue for next integers if yes input -1:
```

```
Enter the number of integers:
4
Enter integer 1:
8
Enter integer 2:
5
Enter integer 3:
1
Enter integer 4:
7
Total even numbers: 1
Total odd numbers: 3
Do you want to continue for next integers if yes input -1:
-1
Enter the number of integers:
3
Enter integer 1:
2
Enter integer 2:
3
Enter integer 3:
6
Total even numbers: 3
Total odd numbers: 4
Do you want to continue for next integers if yes input -1:
```