

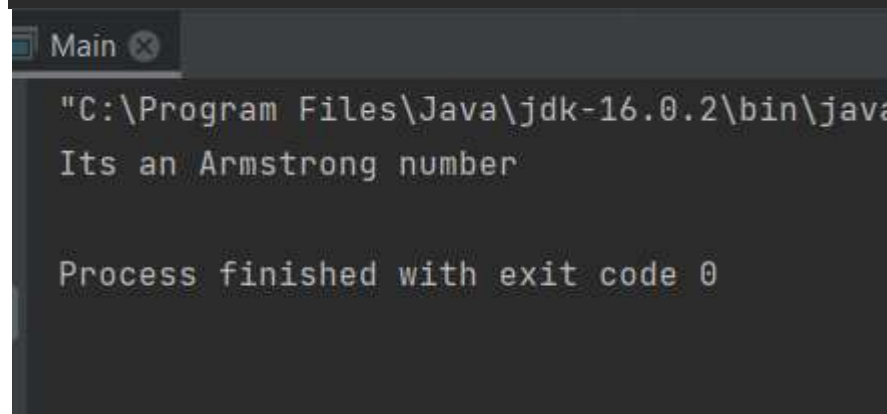
CORE JAVA ASSIGNMENT 1

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1) Armstrong Number

```
public class Main {  
  
    public static void main(String[] args) {  
        int n=153;  
        int temp=n;  
        int r,sum=0;  
  
        while(n>0) {  
            r = n % 10;  
            n = n / 10;  
            sum = sum + r * r * r;  
        }  
        if(temp==sum)  
            System.out.println("Its an Armstrong number");  
        else  
            System.out.println("Its not an Armstrong number");  
  
    }  
}
```

OUTPUT:



```
Main x  
"C:\Program Files\Java\jdk-16.0.2\bin\java  
Its an Armstrong number  
  
Process finished with exit code 0
```

2) Armstrong No. in range 100-999

```
import java.util.Scanner;  
public class Main {  
  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        int a=sc.nextInt();  
        int b=sc.nextInt();  
  
        findArmstrong(a,b);  
    }  
    static void findArmstrong(int a,int b){  
        for(int i=a;i<=b;i++) {  
            int num=i;  
            int r, sum = 0;  

```

```

        while (num > 0) {
            r = num % 10;
            num = num / 10;
            sum = sum + r * r * r;
        }
        if (sum==i)
            System.out.println(sum);
    }
}

```

OUTPUT:

```

100
999
153
370
371
407

```

3)Simple and compound interest:

```

public class Main {

    public static void main(String[] args) {
        // simple interest //(p*r*t)/100
        float p=1000;
        double r=1.2;
        float t=4;
        double simple_interest=(p*r*t)/100;System.out.println("Simple Interest:"+
simple_interest);

        // coumpound interest //amount=p(1+r)^n
        double principal=1000;
        double rate=1.2;
        for(int days=1;days<=10;days++) {
            double compound_interest = principal * Math.pow(1 + rate, days);
            System.out.println("Componud Interest on" + days+ " " +
compound_interest);
        }
    }
}

```

OUTPUT:

```

Main x
"C:\Program Files\Java\jdk-16.0.2\bin\java.e
Simple Interest:48.0
Componud Interest on1 2200.0
Componud Interest on2 4840.000000000001
Componud Interest on3 10648.000000000004
Componud Interest on4 23425.600000000006
Componud Interest on5 51536.320000000014
Componud Interest on6 113379.90400000005
Componud Interest on7 249435.78880000015
Componud Interest on8 548758.7353600004

```

4)Result Declaration

```
import java.util.Scanner;

public class Result {

    public static void main(String[] args) {
        int marks[] = new int[3];
        int i;
        float total = 0, avg;
        Scanner scanner = new Scanner(System.in);
        for(i = 0; i < 3; i++) {
            System.out.print("Enter Marks of Subject" + (i + 1) + ":");
            marks[i] = scanner.nextInt();
        }

        if(marks[0]>60 && marks[1]>60 && marks[2]>60)
        {
            System.out.print("Passed");
        }
        else if(marks[0]>60 && marks[1]>60 && marks[2]<60)
        {
            System.out.print("Promoted");
        }
        else if(marks[0]>60 || marks[0]<60 && marks[1]<60 &&
marks[2]<60)
        {
            System.out.print("Failed");
        }
    }
}
```

OUTPUT:

```
"C:\Program Files\Java\jdk-16.0.2\bin\java.
Enter Marks of Subject1:70
Enter Marks of Subject2:65
Enter Marks of Subject3:80
Passed
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-16.0.2\bin\java.ex
Enter Marks of Subject1:65
Enter Marks of Subject2:70
Enter Marks of Subject3:55
Promoted
Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-16.0.2\b
Enter Marks of Subject1:65
Enter Marks of Subject2:50
Enter Marks of Subject3:40
Failed
Process finished with exit code 0
```

5)Income Tax

```
import java.util.Scanner;

public class Incomtax {

    public static void main(String[] args) {
        double tax=0,it;
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter Your Income:");
        it=sc.nextDouble();
        if(it<=180000)
            tax=0;
        else if(it<=300000)
            tax=(it-180000.00F)*10/100;
        else if(it<=500000)
            tax=(it-300000.00F)*20/100;
        else if(it<=1000000)
            tax=(it-500000.00F)*30/100;
        System.out.printf("TAX=%f \n",tax);
    }
}
```

OUTPUT :

```
"C:\Program Files\Java\jdk-16.0.2\bin\java.exe" -Djava.class.path=.\tax.jar -jar .\tax.jar
Enter Your Income:
1800000
TAX=0.000000

Process finished with exit code 0
```

```
"C:\Program Files\Java\jdk-16.0.2\bin"
Enter Your Income:
250000
TAX=7000.000000
```

```
Enter Your Income:
500000
TAX=40000.000000
```

```
Enter Your Income:
10000000
TAX=150000.000000
```

6)Login

```
1 package login;
2 import java.util.Scanner;
3
4 public class login {
5
6     public static void main(String[] args) {
7         int attempts=0;
8         String username="shru";
9         String password="shru123";
10        Scanner scan=new Scanner(System.in);
11        while(true) {
12            System.out.println("Enter username:");
13            String UN=scan.next();
14            System.out.println("Enter Password:");
15            String PW=scan.next();
16            if("shru".equals(UN) && "shru123".equals(PW)) {
17                System.out.println("WELCOME...!");
18                break;
19            }
20            else {
21                attempts++;
22                System.out.println("Please enter correct username and password");
23                System.out.println("Number of attempts left:"+ (3-attempts));
24            }
25            if(attempts==3) {
26                System.out.println("Contact Admin");
27                break;
28            }
29        }
30    }
31 }
```

Problems Javadoc Declaration Console

<terminated> login [Java Application] C:\Program Files\Ja

Enter username:

shru

Enter Password:

shru123

WELCOME...!

```

<terminated> login [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (05-7
Enter username:
shru
Enter Password:
shru12
Please enter correct username and password
Number of attempts left:2
Enter username:
shru
Enter Password:
shr123
Please enter correct username and password
Number of attempts left:1
Enter username:
shr
Enter Password:
shr12
Please enter correct username and password
Number of attempts left:0
Contact Admin

```

7)Search Element in a array

```

import java.util.Scanner;
public class element{
    public static void main(String[] args) {
        int num,f=0;
        Scanner val=new Scanner(System.in);
        int[] array= {5,12,14,6,78,19,1,23,26,35,37,7,52,86,47};
        System.out.println("Enter number to search from the given array");
        num=val.nextInt();
        for(int i=0;i<array.length;i++) {
            f=0;
            if(num==array[i]) {
                f=1;
                break;
            }
        }
        if(f==1)
            System.out.println("Nmber is present");
        else
            System.out.println("Nmber NOT is present");
    }
}

```

Problems @ Javadoc Declaration Console

<terminated> element [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (04-Aug-2021, 5:44:46 pm - 5

Enter number to search from the given array

19

Nmber is present|

8)Bubble Sort

```

1 package bubblesort;
2 import java.util.Scanner;
3
4 public class bubblesort {
5
6     public static void main(String[] args) {
7         int n,c,d,swap;
8         Scanner in=new Scanner(System.in);
9         System.out.println("Input number of integers to sort");
10        n=in.nextInt();
11        int array[]=new int[n];
12        System.out.print("Enter " + n + "integeres");
13        for(c=0;c<n;c++)
14            array[c]=in.nextInt();
15        for(c=0;c<(n-1);c++) {
16            for(d=0;d<n-c-1;d++) {
17                if (array[d]>array[d+1])
18                {
19                    swap=array[d];
20                    array[d]=array[d+1];
21                    array[d+1]=swap;
22                }
23            }
24        }
25        System.out.println("sorted list of numbers");
26        for(c=0;c<n;c++)
27            System.out.println(array[c]);
28    }
29 }

```

Problems Javadoc Declaration Console

<terminated> bubblesort [Java Application] C:\Program Files\Java\jdk-13.0.2\bin\javaw.exe (04-Aug-202

Input number of integers to sort

15

Enter 15integeres

5
12
14
6
78
19
1
23
26
35
37
7
52
86
47

sorted list of numbers

1
5
6
7
12
14
19
23
26
35
37
47
52
78
86

9)

```
element.java Result.java
1 import java.util.Scanner;
2
3 public class Result {
4
5     public static void main(String[] args) {
6         int[][] marks=new int[3][3];
7         int sum=0;
8         double avg=0;
9         Scanner val=new Scanner(System.in);
10        System.out.println("enter the marks");
11        for(int i=0;i<marks.length;i++)
12        {
13            for(int j=0;j<marks[i].length;j++)
14            {
15                marks[i][j]=val.nextInt();
16                sum=sum+marks[i][j];
17            }
18        }
19        avg=sum/9;
20        System.out.println("sum of all subjects is "+sum+" and average is "+avg );
21        for(int i=0;i<marks.length;i++)
22        {
23            sum=0;
24            avg=0;
25            for(int j=0;j<marks[i].length;j++)
26            {
27
28                sum=sum+marks[j][i];
29            }
30            System.out.println("sum of marks of "+(i+1)+" subject is "+sum);
31            avg=sum/(marks[i].length);
32            System.out.println("average of marks of "+(i+1)+" subject is "+avg);
33        }
34    }
35 }
36
37 }
```

sum of all subjects is 156 and average is 17.0

sum of marks of 1 subject is 55

average of marks of 1 subject is 18.0

sum of marks of 2 subject is 51

average of marks of 2 subject is 17.0

sum of marks of 3 subject is 50

average of marks of 3 subject is 16.0