

Assignment 2

Q1 Write a program to calculate the sum of first 10 natural number.

Code:

```
package assignment2;
import java.util.*;

public class Q1 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number:");
        int n=sc.nextInt();
        int sum=0;
        for(int i=0;i<n;i++) {
            sum+=i;
        }
        System.out.println("Sum of number :"+sum);
    }
}
```

Output:

```
<terminated> Q1 (1) [Java Application] C:\Use
Enter Number:
10
Sum of number :45
```

Q 2 Write a program that prompts the user to input a positive integer. It should then print the multiplication table of that number.

Code:

```
package assignment2;
import java.util.*;
public class Q2 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Positive Number:");
        int n= sc.nextInt();
        if(n>0) {
            System.out.println("Table of "+n);
            for(int i=1;i<=10;i++) {
                System.out.println(n*i);
            }
        }
        else {
            System.out.println("Enter Positive number.");
        }
    }
}
```

Output:

```
<terminated> Q2 (1) [Java Application] C:\Users\Abhi\p2\pool\plugins\org.eclipse.justj.o
Enter Positive Number:
10
Table of 10
10
20
30
40
50
60
70
80
90
100
```

Q 3 Write a program that prompts the user to input an integer and then outputs the number with the digits reversed. For example, if the input is 12345, the output should be 54321.

Code:

```
package assignment2;
import java.util.*;
public class Q3 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.print("Enter Number:");
        int n=sc.nextInt();
        int rev=0;
        int temp=0;

        while(n!=0) {
            temp= n%10;
            rev= rev*10+temp;
            n=n/10;
        }
        System.out.println("Reverse number is:"+rev);
    }
}
```

Output:

```
<terminated> Q3 (1) [Java Application] C:\Users\Abhi\p:
Enter Number:123
Reverse number is:321
```

Q 4 Write a do-while loop that asks the user to enter two numbers. The numbers should be added and the sum displayed. The loop should ask the user whether he or she wishes to perform the operation again. If so, the loop should repeat; otherwise it should terminate. (while loop)

Code:

```
package assignment2;
import java.util.*;
public class Q4 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        boolean a= true;
        do {
            int choice;
            System.out.println("1. Add number ");
            System.out.println("2. exit");
            System.out.print("Enter your choice:");
            choice= sc.nextInt();
            switch(choice) {
                case 1:
                    System.out.println("Enter a first Number:");
                    int x =sc.nextInt();
                    System.out.println("Enter a Second Number:");
                    int y = sc.nextInt();
                    int c=x+y;
                    System.out.println("Sum of Number:"+c);
                    break;

                case 2:
                    System.out.println("Program Terminated.");
                    a=false;
                    break;
                default:
                    System.out.println("Enter Valid option.");
            }
        }while(a!=false);
    }
}
```

Output:

```
<terminated> Q4 [Java Application] C:\Users\Abhi\p
1. Add number
2. exit
Enter your choice:1
Enter a first Number:
2
Enter a Second Number:
4
Sum of Number:6
1. Add number
2. exit
Enter your choice:5
Enter Valid option.
1. Add number
2. exit
Enter your choice:2
Program Terminated.
<
```

Q 5 Write a program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example, $153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)$

Code:

```
package assignment2;
import java.util.*;
public class Q5 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);

        for(int i=1; i<=500;i++) {
            int sum=0;
            int r=0;
            int n=i;
            while(n!=0) {
                r=n%10;
                sum=sum+r*r*r;
                n=n/10;
            }
            if(sum==i) {
                System.out.println(i);
            }
        }
    }
}
```

Output:

```
<terminated> Q5 (1) [Java Application] C:\Users\Abhi\p2\pool\plugins\c
1
153
370
371
407
```

Q 6 Write a program to print Fibonacci series of n terms where n is input by user :
0 1 1 2 3 5 8 13 24

Code:

```
package assignment2;
import java.util.*;
public class Q6 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter limit of Serise:");
        int n=sc.nextInt();
        int a=0;
        int b=1;
        int c;
        System.out.print(a+",");
        System.out.print(b+",");
        for(int i=2;i<n;i++){
            c= a+b;
            System.out.print(c+",");
            a=b;
            b=c;
        }
    }
}
```

Output:

```
<terminated> Q6 (1) [Java Application] C:\Users\Abhi\p2\pool\plugin
Enter limit of Serise:
10
0,1,1,2,3,5,8,13,21,34,
```

Q 7 Write a program to print following :

i)

```
*****
*****
*****
*****
```

Code:

```
package assignment2;
import java.util.*;
public class Q7_1 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        for(int i=0;i<n;i++) {
            for(int j=0;j<n;j++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

Output:

```
<terminated> Q7_1 [Java Application] C:\Users\Abh
Enter Number of Rows:
5
* * * * *
* * * * *
* * * * *
* * * * *
* * * * *
```

ii)

```
*
**
***
****
*****
```

Code:

```
package assignment2;
import java.util.Scanner;

public class Q7_2 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        for(int i=0;i<n;i++) {
            for(int j=0;j<=i;j++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

Output:

```
<terminated> Q7_2 [Java Application] C:\Users\Abhi\p2\
Enter Number of Rows:
5
*
* *
* * *
* * * *
* * * * *
```


iii)

```
  *
 * *
* * *
* * * *
* * * * *
```

Code:

```
package assignment2;

import java.util.Scanner;

public class Q7_3 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        for(int i=0;i<n;i++) {
            for(int k=n;k>i;k--) {
                System.out.print(" ");
            }
            for(int j=0;j<=i;j++) {
                System.out.print("* ");
            }
            System.out.println();
        }
    }
}
```

Output:

```
Enter Number of Rows:
5
  *
 * *
* * *
* * * *
* * * * *
```

iv)

```
      *
     ***
    *****
   ********
  **********
 **********
```

Code:

```
package assignment2;

import java.util.Scanner;

public class Q7_4 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        for(int i=0;i<n;i++) {
            for(int k=n;k>i;k--) {
                System.out.print(" ");
            }
            for(int j=0;j<=i;j++) {
                System.out.print("*");
            }
            System.out.println();
        }
    }
}
```

Output:

```
<terminated> Q7_4 [Java Application] C:\Users\Abhi\
Enter Number of Rows:
10
|
      *
     **
    ***
   ****
  *****
 *****
  *****
 *****
 *****
 *****
 *****
```

v)

```
    1
   222
  33333
 4444444
555555555
```

Code:

```
package assignment2;

import java.util.Scanner;

public class Q7_5 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        int a=1;
        for(int i=0;i<n;i++) {
            for(int k=n;k>i;k--) {
                System.out.print(" ");
            }
            for(int j=0;j<=i;j++) {
                System.out.print(a);
            }
            System.out.println();
            a++;
        }
    }
}
```

Output:

```
<terminated> Q7_5 [Java Application] C:\Users\Abhi\.p2\
Enter Number of Rows:
5
    1
   22
  333
 4444
55555
```

```

vi )      ABCDEEDCBA
          ABCD  DCBA
          ABC   CBA
          AB    BA
          A     A

```

Code:

```

package assignment2;

import java.util.Scanner;

public class Q7_6 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number of Rows:");
        int n= sc.nextInt();
        char a='A';
        for(int i=0;i<n;i++) {
            for(int j=n;j>i;j--) {
                System.out.print(a);
                a++;
            }
            for(int k=0;k<i;k++) {
                System.out.print(" ");
            }
            for(int m=n;m>i;m--) {
                a--;
                System.out.print(a);
            }
            System.out.println();
        }
    }
}

```

Output:

```

<terminated> Q7_6 [Java Application] C:\Users\Abhi\p2\pool\pl
Enter Number of Rows:
6
ABCDEFFEDCBA
ABCDE  EDCBA
ABCD   DCBA
ABC    CBA
AB     BA
A      A

```

Q 8 Write a program in java to find the sum of the even and odd digits of the number which is given as input.

Code:

```
package assignment2;
import java.util.*;

public class Q8 {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter Number:");
        int n=sc.nextInt();
        int rem=0;
        int ev=0;
        int od=0;
        while(n!=0) {
            rem= n % 10;
            if(rem %2==0) {
                ev=ev+rem;
            }
            else {
                od= od + rem;
            }
            n= n/10;
        }
        System.out.println("Sum of even digit of Number:"+ev);
        System.out.println("Sum of odd digit of Number:"+od);

    }
}
```

Output:

```
<terminated> Q8 (1) [Java Application] C:\Users\Abhi\p2\pool\plugins\org.eclipse.justj.oj
Enter Number:
2325
Sum of even digit of Number:4
Sum of odd digit of Number:8
```

Q9 Write a program to check if given number is prime or not.

Code:

```
package assignment2;
import java.util.*;
public class Q9 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter Number:");
        int n= sc.nextInt();
        int cnt=0;
        for(int i=2;i<n;i++) {
            if(n%i==0) {
                cnt++;
            }
        }
        if(cnt==0) {
            System.out.println("Number is Prime.");
        }
        else {
            System.out.println("Number is not prime.");
        }
    }
}
```

Output:

```
<terminated> Q9 (1) [Java Application] C:\Users\Abhi\p2\p
Enter Number:
13
Number is Prime.
```

Q 10 write a program to print prime numbers between 2 to 20.

Code:

```
package assignment2;

public class Q10 {
    public static void main(String[] args) {

        for(int j=2;j<=20;j++) {
            int cnt=0;
            for(int i=2;i<j;i++) {
                if(j%i==0) {
                    cnt++;
                }
            }
            if(cnt==0) {
                System.out.println(j);
            }
        }
    }
}
```

Output:

```
<terminated> Q10 (1) [Java Application] C:\Users\Abhi\.p2\p
2
3
5
7
11
13
17
19
```

Q 11 Write program to find largest among three numbers.

Code:

```
package assignment2;
import java.util.*;
public class Q11 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.print("Enter First Number:");
        int a= sc.nextInt();
        System.out.print("Enter Second Number:");
        int b=sc.nextInt();
        System.out.print("Enter Third Number:");
        int c= sc.nextInt();

        if(a>b && a>c)
            System.out.println(a+" is Largest Among Two");

        else if(b>c)
            System.out.println(b+" is Largest Among Two");

        else
            System.out.println(c+" is Largest Among Two");
    }
}
```

Output:

```
<terminated> Q11 [Java Application] C:\Users\Abhi\p2\pool\p
Enter First Number:4
Enter Second Number:8
Enter Third Number:2
8 is Largest Among Two
```

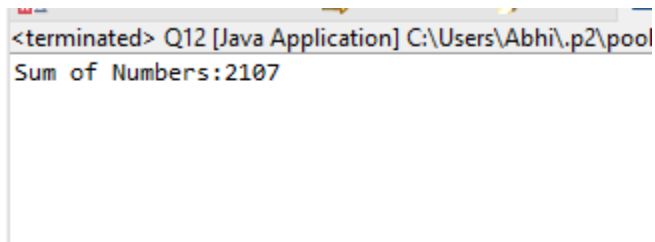

Q 12 Write a program to find sum of all integers greater than 100 and less than 200 that are divisible by 7

Code:

```
package assignment2;

public class Q12 {
    public static void main(String[] args) {
        int sum=0;
        for(int i=100;i<200;i++) {
            if(i%7==0) {
                sum+=i;
            }
        }
        System.out.println("Sum of Numbers:"+sum);
    }
}
```

Output:

A screenshot of a Java application window titled "Q12 [Java Application] C:\Users\Abhi\p2\pool". The window displays the output "Sum of Numbers:2107". The text is in a standard monospaced font, and the window has a standard Windows-style title bar with minimize, maximize, and close buttons.

```
<terminated> Q12 [Java Application] C:\Users\Abhi\p2\pool
Sum of Numbers:2107
```

Q 13 8. Write a Java program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.

Hint

```
System.out.println("\nDivided by 3: ");
for (int i=1; i<100; i++) {
    if (i%3==0)
        System.out.print(i +", ");
}
```

Code:

```
package assignment2;

public class Q13 {
    public static void main(String[] args) {

        for(int i=1;i<=100;i++) {
            if(i%3==0 && i%5==0) {
                System.out.println(i);
            }
        }
    }
}
```

Output:

```
<terminated> Q13 [Java Application] C:\Users\Abhi\
15
30
45
60
75
90
```

Q 14 create a menu driven application in java that show

"Add"	Add two number
"subtract"	Subtract two number
"Multiple"	Multiple two numbers
"Exit "	Exit

Ask two numbers from user and as per user choice perform necessary action using switch command.

Code:

```
package assignment2;
import java.util.*;

public class Q14 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        boolean x= true;
        int a,b,c;
        int choice;
        do {
            System.out.println("***** Simple Calculator *****");
            System.out.println("Choice :");
            System.out.println("1.Addion");
            System.out.println("2.Substraction");
            System.out.println("3.Multiplication");
            System.out.println("4.Division");
            System.out.println("5.Mod");
            System.out.println("6.Exit");
            System.out.print("Enter Your Choice :");
            choice= sc.nextInt();

            switch(choice) {

                case 1:
                    System.out.println("Enter first Number :");
                    a=sc.nextInt();
                    System.out.println("Enter Second Number :");
                    b=sc.nextInt();
                    c=a+b;
                    System.out.println("Addition:"+c);
                    break;

                case 2:
                    System.out.println("Enter first Number :");
                    a=sc.nextInt();
                    System.out.println("Enter Second Number :");
                    b=sc.nextInt();
                    c=a-b;
                    System.out.println("Substraction:"+c);
                    break;

                case 3:
                    System.out.println("Enter first Number :");
                    a=sc.nextInt();
```

```

        System.out.println("Enter Second Number :");
        b=sc.nextInt();
        c=a*b;
        System.out.println("Multiplication:"+c);
        break;

    case 4:
        System.out.println("Enter first Number :");
        a=sc.nextInt();
        System.out.println("Enter Second Number :");
        b=sc.nextInt();
        c=a/b;
        System.out.println("Division:"+c);
        break;

    case 5:
        System.out.println("Enter first Number :");
        a=sc.nextInt();
        System.out.println("Enter Second Number :");
        b=sc.nextInt();
        c=a%b;
        System.out.println("Moduluse:"+c);
        break;

    case 6:
        System.out.println("Program Treminated.");
        x=false;
        break;

    default:
        System.out.println("Enter Valid Choice.");
    }

    }while(x!=false);
}

}

```

Output:

```

<terminated> Q14 [Java Application] C:\Users\Abhi\p2\pool\plugins\org.eclip
***** Simple Calculator *****
Choice :
1.Addion
2.Substraction
3.Multiplication
4.Division
5.Mod
6.Exit
Enter Your Choice :3
Enter first Number :
2
Enter Second Number :
3
Multiplication:6
***** Simple Calculator *****
Choice :
1.Addion
2.Substraction
3.Multiplication
4.Division
5.Mod
6.Exit
Enter Your Choice :6
Program Treminated.

```

Q 15 Write a program to display first 1 to 20 even number on screen .
Terminate the program when number 16 is found using break command .

Code:

```
package assignment2;

public class Q15 {
    public static void main(String[] args) {
        for(int i=1;i<=20;i++) {
            if(i%2==0) {
                System.out.println(i);
            }
            if(i==16) {
                break;
            }
        }
    }
}
```

Output:

<terminated> Q15 [Java Application] C:\Users\Abhi\.

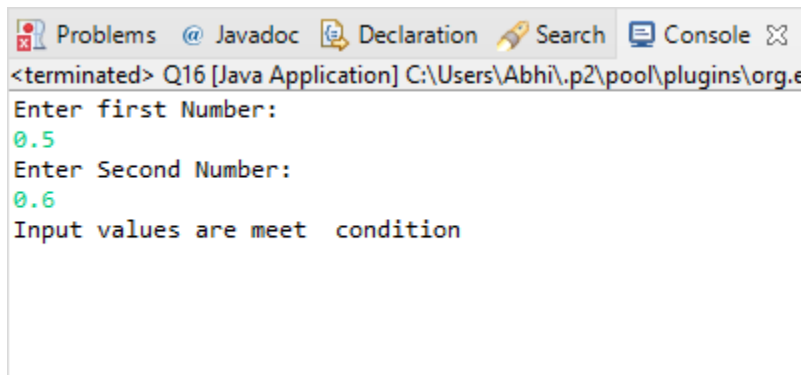
2
4
6
8
10
12
14
16

Q16 Write a Java program that accepts two double variables and test if both strictly between 0 and 1 and false otherwise.
Hint $n1 > 0 \ \&\& \ n1 < 1 \ \&\& \ n2 > 0 \ \&\& \ n2 < 1$.

Code:

```
package assignment2;
import java.util.*;
public class Q16 {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter first Number:");
        double n1= sc.nextDouble();
        System.out.println("Enter Second Number:");
        double n2= sc.nextDouble();
        if(n1 > 0 && n1 < 1 && n2 > 0 && n2 < 1) {
            System.out.println("Input values are meet condition");
        }
        else {
            System.out.println("Enter valid input");
        }
    }
}
```

Output:



```
<terminated> Q16 [Java Application] C:\Users\Abhi\p2\pool\plugins\org.e
Enter first Number:
0.5
Enter Second Number:
0.6
Input values are meet condition
```

