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

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

package ASSIGNMENT_2;

public class question_1 {

    public static void main(String[] args) {
        int i,sum=0;
        for (i=1;i<=10;i++) {
            sum=sum+i;
        }
        System.out.println(sum);

    }

}

```

Output

```
<terminated> question_1 (1) [Java Application] C:\eclipse\plugins\org.eclipse.justj
55
```

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

```java
/*Q 2 Write a program that prompts the user to input a positive integer.

package ASSIGNMENT_2;
import java.util.Scanner;
public class question_2 {

    public static void main(String[] args) {

        Scanner s= new Scanner(System.in);
        System.out.println("Please Input a Positive number");
        int num= s.nextInt();
        if(num>0) {
            for(int i=1;i<=10;i++) {
                int mult=num*i;
                System.out.println(mult);
            }
        }


        else {
            System.out.println("The number is not positive");
        }
        s.close();

}}
```

Test case

1 (+)

```
Please Input a Positive number
22
22
44
66
88
110
132
154
176
198
220
```

2(-)

```
<terminated> question_2 (1) [Java Application] C:\ec
Please Input a Positive number
-11
The number is not positive
```

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.

```java
/*Q 3 Write a program that prompts the user to input an integer and
package ASSIGNMENT_2;
import java.util.Scanner;
public class question_3 {

    public static void main(String[] args) {
        int rev=0;
        Scanner s= new Scanner(System.in);
        System.out.println("Enter an Integer");
        int a=s.nextInt();
        while(a!=0) {
            int rem=a%10;
            rev=rev*10+rem;
            a=a/10;
        }
        System.out.println("The reverse of the integer is "+rev);
        s.close();  }

}
```

Output

```
<terminated> question_3 (1) [Java Application] C:\eclipse\plugins\org.eclipse.justj.ope
Enter an Integer
12345
The reverse of the integer is 54321
```

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)

```java
/*Q 4 Write a do-while loop that asks the user to enter two numbers.*/
package ASSIGNMENT_2;
import java.util.Scanner;
public class question_4 {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        char s;
        do{
            int sum = 0;
          System.out.println("Enter two numbers");
          int num1= sc.nextInt();
          int num2 = sc.nextInt();
          sum = sum+num1+num2;
          System.out.println("sum "+sum);
          System.out.println("Do you wish to perform another operation, Y/N");
          s =sc.next().charAt(0);
        }while(s =='Y'||s=='y');

      sc.close();}
    }
```

Output

```
<terminated> question_4 (1) [Java Application] C:\eclipse\plugins\org.eclipse.ju
Enter two numbers
10
10
sum 20
Do you wish to perform another operation, Y/N
n
```

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)

```java
package ASSIGNMENT_2;

public class question_5 {

    public static void main(String[] args) {
        int i=1,num,arm,x;
        while(i<=500) {
            num=i;
            arm=0;
            while(num!=0) {
            x=num%10;
            arm=arm+(x*x*x);//FOR 3 DIGIT ARMSTRONG , CUBE IS APPLIED AND FOR 4 DIGITS POWER(4) IS USEI

            num=num/10;
            }
            if(arm==i)
                System.out.println(arm);
                i++;

        }

        }

}
```

Output

```
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 .....

```java
/*Q 6 Write a program to print Fibonacci series of n terms where n is input by user :

package ASSIGNMENT_2;
import java.util.Scanner;
public class question_6 {

    public static void main(String[] args)  {

        Scanner s=new Scanner(System.in);
        System.out.println("Enter the position till which you want to see the Fibonacci series for");
        int n= s.nextInt();
        int firstTerm = 0, secondTerm = 1;
        System.out.println("Fibonacci Series till " + n + " terms:");

        for (int i = 1; i <= n; ++i) {
          System.out.print(firstTerm + " ");

          // compute the next term
          int nextTerm = firstTerm + secondTerm;
          firstTerm = secondTerm;
          secondTerm = nextTerm;
        }s.close();
      }
    }
```

Output

```
Enter the position till which you want to see the Fibonacci series for
6
Fibonacci Series till 6 terms:
0 1 1 2 3 5
```

Q 7 Write a program to print following :

i)

****

****

****

****

```
1  package ASSIGNMENT_2;
2
3  public class question_7_part_1 {
4
5      public static void main(String[] args) {
6          int i,j;
7          for (i=1;i<=4;i++) {
8              for (j=1;j<=10;j++) {
9                  System.out.print('*');
10             }System.out.println();
11         }
12
13     }
14
15 }
16
```

ii)

*

**

***

****

*****

```java
package ASSIGNMENT_2;

public class question_7_part_2 {

    public static void main(String[] args) {
        int i,j;
        for (i=1;i<=5;i++) {
            for(j=1;j<=i;j++) {
                System.out.print('*');
            }
            System.out.println();
        }

    }

}

```

iii)

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

```java
package ASSIGNMENT_2;

public class question_7_part_3 {

    public static void main(String[] args)  {

        int size = 5;
        for (int i = 0; i < size; i++) {

          for (int j = 0; j < size-i; j++) {
            System.out.print(" ");
          }

          for (int k = 0; k < i + 1; k++) {
            System.out.print("* ");
          }
          System.out.println();
        }
      }
    }
```

iv

```java
package ASSIGNMENT_2;

public class question_7_part_4 {

    public static void main(String[] args)  {

        int size = 5;
        for (int i = 0; i < size; i++) {

          for (int j = 0; j < size - i - 1; j++) {
            System.out.print(" ");
          }

          for (int k = 0; k < 2 * i + 1; k++) {
            System.out.print("*");
          }
          System.out.println();
        }
      }
    }
```

Output

```
<terminated> question_7_p
    *
   ***
  *****
 *******
*********
```

v)

```java
package ASSIGNMENT_2;

public class question_7_part_5 {

    public static void main(String[] args)  {

        int size = 5;
        for (int i = 0; i < size; i++) {
          // print spaces
          for (int j = 0; j < size - i - 1; j++) {
            System.out.print(" ");
          }
          // print stars
          for (int k = 0; k < 2 * i + 1; k++) {
            System.out.print(i+1);
          }
          System.out.println();
        }
      }
    }

```

Output

```
<terminated> question_7_part_5 [Jav
    1
   222
  33333
 4444444
555555555
```

vi)

```java
package ASSIGNMENT_2;

public class question_7_part_6 {

    public static void main(String[] args) {
        int z=71,spaces=-1;
        char x='F';
        for(int i=1;i<=5;i++) {
            z--;
            for(char a='A';a<z;a++) {
                System.out.print(a);
            }spaces++;
            for (int j=2;j<=spaces+1;j++) {
                System.out.print(' ');
            }
            for (int k=2;k<=spaces+1;k++) {
                System.out.print(' ');
            }x--;
            for (char b=x;b>='A';b--) {
                System.out.print(b);
            }System.out.println();
        }

    }

}
```

Output

```
ABCDEEDCBA
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.

```java
/*Q 8 Write a program in java to 

package ASSIGNMENT_2;
import java.util.Scanner;
public class question_8 {

    public static void main(String[] args)

{
    Scanner s = new Scanner(System.in);
    int n, sumo=0,sume=0,rem;
    System.out.println("Enter your Number: ");
    int num=s.nextInt();
    n=num;
    while(num>0)
    {
      rem=num%10;
      if(rem%2==0)
      {
          sume=sume+rem;
      }
      else
      {
          sumo=sumo+rem;
      }
      num=num/10;
   }s.close();
  System.out.println("Sum of even digits in "+n+" is "+sume);
  System.out.println("Sum of odd digits in "+n+" is "+sumo);
}
}
```

Output

```
<terminated> question_8 (1) [Java Application] C:\eclipse\
Enter your Number:
18967
Sum of even digits in 18967 is 14
Sum of odd digits in 18967 is 17
```

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

```java
//Q9 Write a program to check if given number is prime or not

package ASSIGNMENT_2;
import java.util.Scanner;
public class question_9 {

    public static void main(String[] args) {
        Scanner s =new Scanner(System.in);
        System.out.println("Enter the number you want to check");
        int num=s.nextInt();
        boolean flag = false;
        for (int i = 2; i <= num / 2; ++i) {

          if (num % i == 0) {
            flag = true;
            break;
          }
        }s.close();

        if (!flag)
          System.out.println(num + " is a prime number.");
        else
          System.out.println(num + " is not a prime number.");
      }
    }
```

Output

```
<terminated> question_9 (1) [Java Application] C:\eclipse\pr
Enter the number you want to check
1098
1098 is not a prime number.
```

```
<terminated> question_9 (1) [Java Application] C:\eclipse
Enter the number you want to check
4001
4001 is a prime number.
```

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

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

package ASSIGNMENT_2;



public class question_10 {

    public static void main(String[] args) {

        int a = 2, b = 20;

        while (a < b) {
            boolean flag = false;

            for(int i = 2; i <= a/2; ++i) {

                if(a % i == 0) {
                    flag = true;
                    break;
                }
            }

            if (!flag && a != 0 && a != 1)
                System.out.print(a + " ");

            ++a;
        }
    }
}
```

Output

```
<terminated> question_10 (1) [Java Applicatio
2 3 5 7 11 13 17 19
```

Q 11 Write program to find largest among three numbers

```java
//Q 11 Write program to find largest among three numbers

package ASSIGNMENT_2;

import java.util.Scanner;

public class question_11 {

    public static void main(String[] args) {

            Scanner s= new Scanner(System.in);
            System.out.println("Enter the First Number");
            int a= s.nextInt();
            System.out.println("Enter the Second Number");
            int b= s.nextInt();
            System.out.println("Enter the Third Number");
            int c= s.nextInt();
            int LN=(a>b?(a>c)?a:c:(b>c?b:c));
            System.out.println("The Greatest number is " +LN);
            s.close();}



}

```

Output

```
<terminated> question_11 [Java Application] C:\eclipse\p
Enter the First Number
109
Enter the Second Number
20
Enter the Third Number
101
The Greatest number is 109
```

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

```java
/*Q 20 Write a program to find sum of all integers greater than 100 

package ASSIGNMENT_2;

public class question_12 {

    public static void main(String[] args) {
        int sum = 0;
        for (int i = 101; i < 200; i++)
        {
            if (i % 7 == 0)
            {
                sum = sum + i;

            }
        }
        System.out.println("The Sum of the number between 100 to 200 which are divisible by 7 is: "+sum);

        }}
```

Output

```
<terminated> question_12 [Java Application] C:\eclipse\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_
The Sum of the number between 100 to 200 which are divisible by 7 is: 2107
```

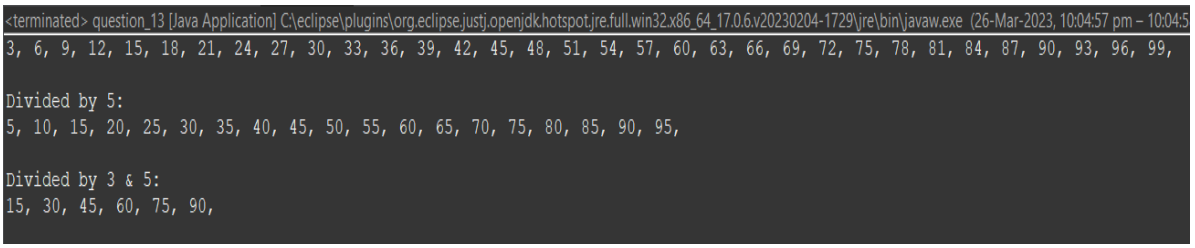
Q 13. Write a Java program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.

Hint

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

```java
//Write a Java program to print numbers between 1 to 100 which are divisible by 3, 5 and by both.
package ASSIGNMENT_2;

public class question_13 {

    public static void main(String[] args) {
        System.out.println("\nDivided by 3: ");
        for (int i=1; i<100; i++) {
            if (i%3==0)
            System.out.print(i +", ");
        }

        System.out.println("\n\nDivided by 5: ");
        for (int i=1; i<100; i++) {
            if (i%5==0) System.out.print(i +", ");
        }

        System.out.println("\n\nDivided by 3 & 5: ");
        for (int i=1; i<100; i++) {
            if (i%3==0 && i%5==0) System.out.print(i +", ");
        }
        System.out.println("\n");
    }

}

```

Output



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

```java
/* Ask two numbers from user  and as per user choice perform necessary action using switch command*/
package ASSIGNMENT_2;
import java.util.Scanner;
public class question_14 {

    public static void main(String[] args) {
        Scanner s= new Scanner(System.in);
        int a,b,x;
        System.out.println("Enter First number");
        a=s.nextInt();
        System.out.println("Enter Second number");
        b=s.nextInt();
        System.out.println("Press 1 for Addition");
        System.out.println("Press 2 for Subtraction");
        System.out.println("Press 3 for Multiplication");
        System.out.println("Press 4 for Exit");
        x=s.nextInt();
        switch(x) {
            case 1:System.out.println(a+b);
            break;

            case 2:System.out.println(a-b);
            break;

            case 3:System.out.println(a*b);
            break;

            case 4:System.out.println("Exit");
            break;

            default:System.out.println("No choice input");
            break;
        }
        s.close();
    }

}
```

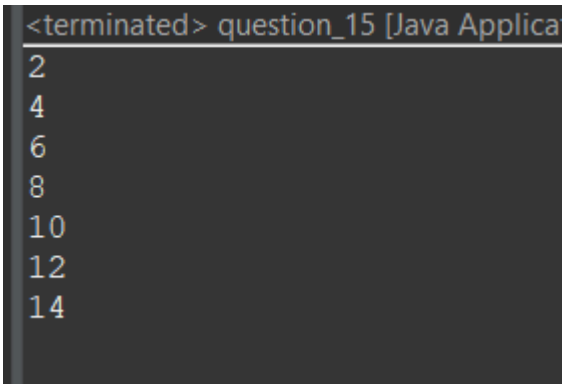
Output

```
Enter First number
103
Enter Second number
201
Press 1 for Addition
Press 2 for Subtraction
Press 3 for Multiplication
Press 4 for Exit
3
20703
```

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 .

```java
/* Write a program to display first 1 to 20  even number on screen .
Terminate the program when number 16 is found using break command .*/

package ASSIGNMENT_2;

public class question_15 {

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

            }
        }

    }

}
```

Output



Q 16 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

```java
/*Write a Java program that accepts
two double variables and test if both strictly between 0 and 1 and false otherwise.*/

package ASSIGNMENT_2;
import java.util.Scanner;

public class question_16 {

    public static void main(String[] args) {
        double x,y;
        Scanner s= new Scanner (System.in);
        System.out.println("Enter first decimal number between 0 and 1");
        x=s.nextDouble();
        System.out.println("Enter second decimal number between 0 and 1");
        y=s.nextDouble();
        System.out.println(x > 0 && y < 1 && y > 0 && x < 1);
        s.close();
    }

}
```

Output

```
Enter first decimal number between 0 and 1
0.123
Enter second decimal number between 0 and 1
0.152
true
```

```
Enter first decimal number between 0 and 1
-1
Enter second decimal number between 0 and 1
1.2
false
```