ASSIGNMENT-01

NAME-Manas Ranjan Mohanta

ROLL NO-404027

REGD NO- 2105105025

Question-1

```
  /* Write a java program to print biodata */
package assignment1;

public class Question1 {
    public static void main(String[] args) {
        System.out.println("Name: Manas Ranjan Mohanta");
        System.out.println("Father's Name: Shripati Mohanta");
        System.out.println("Date of Birth: 19-11-2000");
        System.out.println("Gender: Male");
        System.out.println("Blood Group: O+");
        System.out.println("Nationality: Indian");
        System.out.println("Mobile No.: 6372073428");
        System.out.println("Email Id:
manasranjanmohanta679@gmail.com");
        System.out.println("Address: At-Baripada, Po-Takapur, Ps-
Baripada, Dist-Mayurbhanj, Odisha, 757003");
    }
}
```

Output-

Name: Manas Ranjan Mohanta

Father's Name: Shripati Mohanta

Date of Birth: 19-11-2000

Gender: Male

Blood Group: O+

Nationality: Indian

Mobile No.: 6372073428

Email Id: manasranjanmohanta679@gmail.com

Address: At-Baripada, Po-Takapur, Ps-Baripada, Dist-Mayurbhanj, Odisha, 757003

Question-2

```
  /* Write a java program to find simple interest */
package assignment1;

import java.util.Scanner;
```

```java
public class Question2 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the principle amount: ");
        float p = sc.nextLong();
        System.out.println("Enter the rate of interest:");
        float r = sc.nextFloat();
        System.out.println("Enter the time(in years):");
        float t = sc.nextInt();

        float si = p * t * r / 100;
        System.out.println("Simple Interest is : " + si);
    }
}
```

Output-

Enter the principle amount:

1000

Enter the rate of interest:

2.5

Enter the time(in years):

5

Simple Interest is : 125.0

Question-3

```java
/* Write a java program for temperature conversion */
package assignment1;

import java.util.Scanner;

public class Question3 {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the temperature in celsius : ");
        float cel = sc.nextFloat();
        System.out.println("Enter temperature in fahrenheit : ");
        float fah = sc.nextFloat();

        float resFah, resCel;

        resFah = (cel * 9/5) + 32;
        resCel = (fah - 32) * 5/9;

        System.out.println("The temperature in celsius " + cel +  "
equivalent to temperature in fahrenheit " + resFah);
        System.out.println("The temperature in Fahrenheit " + fah +  "
equivalent to temperature in Celsius " + resCel);
```

```
    }
}
```

Output-

Enter the temperature in celsius :

25.4

Enter temperature in fahrenheit :

75.56

The temperature in celsius 25.4 equivalent to temperature in fahrenheit 77.72

The temperature in Fahrenheit 75.56 equivalent to temperature in Celsius 24.199999

Question-4

```
/* Write a java program to implement adder circuit and booth algorithm
using bitwise operator? */
package assignment1;

public class Question4 {
    public static void main(String[] args) {
        boolean a, b, c , temp, sum;
        a = true;
        b = true;
        c = false;

        sum = a ^ b;
        temp = a & b;

        System.out.println("Value of a is : " + a);
        System.out.println("Value of b is : " + b);
        System.out.println("Value of c is : " + c);
        System.out.println("Value of sum is : " + sum);
        System.out.println("Value of temp is : " + temp);
    }
}
```

Output-

Value of a is : true

Value of b is : true

Value of c is : false

Value of sum is : false

Value of temp is : true

Question-5i

```
//        Write a java program to find following without using looping
and decision making
//        I. Sum of all digits of any 4 digit
package assignment1;
```

```java
import java.util.Scanner;

public class Question5i {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit numbers : ");
        int n = sc.nextInt();
       int sum = 0;
       int digit1 = n % 10;
       n = n / 10;
       int digit2 = n % 10;
       n = n / 10;
       int digit3 = n % 10;
       n = n / 10;
       int digit4 = n % 10;
       sum = digit1  + digit2 + digit3 + digit4;
       System.out.println("The sum of digits is : " + sum);

    }
}
```

Output-

Enter a 4 digit numbers :

6854

The sum of digits is : 23

Question-5ii

```java
//II. find the face value and position value of any 4 digit number?
package assignment1;

import java.util.Scanner;

public class Question5ii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n / 1 % 10;

        System.out.println("Face value of digit1 is : " + digit1 + "
and the position value is " + (digit1 * 1000));
        System.out.println("Face value of digit2 is : " + digit2 + "
and the position value is " + (digit2 * 100));
        System.out.println("Face value of digit3 is : " + digit3 + "
and the position value is " + (digit3 * 10));
        System.out.println("Face value of digit4 is : " + digit4 + "
and the position value is " + (digit4 * 1));
```

```
    }
}
```

Output-

Enter a 4 digit number :

4589

Face value of digit1 is : 4 and the position value is 4000

Face value of digit2 is : 5 and the position value is 500

Face value of digit3 is : 8 and the position value is 80

Face value of digit4 is : 9 and the position value is 9

Question-5iii

```
//III. Find the value available at position required by user it may be
10,100 or 1000?
package assignment1;

import java.util.Scanner;

public class Question5iii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number : ");
        int n = sc.nextInt();

        int digit1 = n / 10 % 10;
        int digit2 = n / 100 % 10;
        int digit3 = n / 1000;

        System.out.println("The value at position 10 is " + digit1);
        System.out.println("The value at position 100 is " + digit2);
        System.out.println("The value at position 1000 is " + digit3);

    }
}
```

Output-

Enter a number :

7896

The value at position 10 is 9

The value at position 100 is 8

The value at position 1000 is 7

Question-5iv

```
//IV. Sum of product of consecutive digits of any 4 digit number?
Supoose num=1234 then output= 4*3+3*2+2*1
```

```java
package assignment1;

import java.util.Scanner;

public class Question5iv {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter  a  4 digit number : ");
        int n = sc.nextInt();
        int sum = 0;

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n / 1 % 10;

        sum = (digit1 * digit2) + (digit2 * digit3) + (digit3 *
digit4);
        System.out.println("Sum of product of consecutive digits is :
" + sum);
    }
}
```

Output-

Enter a 4 digit number :

1254

Sum of product of consecutive digits is : 32

Question-5v

```java
//V. find sum of product of corresponding digits of two any 4 digit
number
// Such as n=1234 m=7896 output=6*4+9*3+8*2+7*1

package assignment1;

import java.util.Scanner;

public class Question5v {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter first 4 digit number : ");
        int n1 = sc.nextInt();
        System.out.println("Enter second 4 digit number :  ");
        int n2 = sc.nextInt();
        int sum = 0;

        int fd1 = n1 / 1 % 10;
        int fd2 = n1 / 10 % 10;
        int fd3 = n1 / 100 % 10;
        int fd4 = n1 / 1000;

        int sd1 = n2 / 1 % 10;
        int sd2 = n2 / 10 % 10;
        int sd3 = n2 / 100 % 10;
```

```
        int sd4 = n2 / 1000;

        sum = (fd1 * sd1) + (fd2 * sd2) + (fd3 * sd3) + (fd4 * sd4);
        System.out.println("Sum of product of corresponding digits of
two 4 digit number is : " + sum);
    }
}
```

Output-

Enter first 4 digit number :

5645

Enter second 4 digit number :

2546

Sum of product of corresponding digits of two 4 digit number is : 86

Question-5vi

```
//VI. find bitwise and , or , and xor of 2nd and 4th digit of any 4
digit number?
package assignment1;

import java.util.Scanner;

public class Question5vi {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();

        int digit2 = n / 10 % 10;
        int digit4 = n / 1000;

//        int digit2 = n / 100 % 10;
//        int digit4 = n % 10;

        int ans1 = (digit2 & digit4);
        int ans2 = (digit2 | digit4);
        int ans3 = (digit2 ^ digit4);

        System.out.println("The number is : " + n);
        System.out.println("The Bitwise AND value of 2nd and 4th digit
of number " + n + " is : " + ans1);
        System.out.println("The Bitwise OR value of 2nd and 4th digit
of number " + n + " is : " + ans2);
        System.out.println("The Bitwise XOR value of 2nd and 4th digit
of number " + n + " is : " + ans3);
    }
}
```

Output-

Enter a 4 digit number :

2598

The number is : 2598

The Bitwise AND value of 2nd and 4th digit of number 2598 is : 0

The Bitwise OR value of 2nd and 4th digit of number 2598 is : 11

The Bitwise XOR value of 2nd and 4th digit of number 2598 is : 11

Question-5vii

```
//VII. Find left shit, right shift and zero fill of summation of all
digits
// of any 4 digit number and it will be shifted by 3rd digit of any 4
digitnumber?
package assignment1;

import java.util.Scanner;

public class Question5vii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();
        int sum = 0;

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;

        sum = digit1 + digit2 + digit3 + digit4;

        System.out.println("The number is : " + n);
        System.out.println("The sum of digits is : " + sum);
        System.out.println("Left shift value is : " + (sum <<
digit3));
        System.out.println("Right shift value is : " + (sum >>
digit3));
        System.out.println("Right shift and zero fill is "  + (sum >>>
digit3));

    }
}
```

Output-

Enter a 4 digit number :

3516

The number is : 3516

The sum of digits is : 15

Left shift value is : 30

Right shift value is : 7

Right shift and zero fill is 7

Question-6i

```
//6. Write a java program to find following using conditional operator
// and without using looping and decision making ?
// a) Sum of all even digits of any 4 digit number
package assignment1;

import java.util.Scanner;

public class Question6i {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();
        int sum = 0;

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;
        sum += (digit1 % 2 == 0) ? digit1 : 0;
        sum += (digit2 % 2 == 0) ? digit2 : 0;
        sum += (digit3 % 2 == 0) ? digit3 : 0;
        sum += (digit4 % 2 == 0) ? digit4 : 0;

        System.out.println("The number is : " + n);
        System.out.println("The Sum of all even digits of number " + n
+ " is : " + sum);



    }
}
```

Output-

Enter a 4 digit number :

9852

The number is : 9852

The Sum of all even digits of number 9852 is : 10

Question-6ii

```
//b) Sum of all odd digits of any 4 digit number
package assignment1;

import java.util.Scanner;

public class Question6ii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
```

```
        int n = sc.nextInt();
        int sum = 0;

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;
        sum += (digit1 % 2 != 0) ? digit1 : 0;
        sum += (digit2 % 2 != 0) ? digit2 : 0;
        sum += (digit3 % 2 != 0) ? digit3 : 0;
        sum += (digit4 % 2 != 0) ? digit4 : 0;

        System.out.println("The number is : " + n);
        System.out.println("The Sum of all odd digits of number " + n
+ " is : " + sum);
    }
}
```

Output-

Enter a 4 digit number :

2346

The number is : 2346

The Sum of all odd digits of number 2346 is : 3

Question-6iii

```
//c) Difference between average of all even digits except divisible by
4
// and average of all odd digits except divisble by 3 of any 4 digit
number
package assignment1;

import java.util.Scanner;

public class Question6iii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;

        int evenCount = 0, oddCount = 0, evenSum = 0, oddSum = 0;

        // finding number of even digit and sum of those even digit
        evenCount += ((digit1 % 2 == 0) && (digit1 % 4 != 0)) ? 1 : 0;
        evenSum += ((digit1 % 2 == 0) && (digit1 % 4 != 0)) ? digit1 :
0;
        evenCount += ((digit2 % 2 == 0) && (digit2 % 4 != 0)) ? 1 : 0;
        evenSum += ((digit2 % 2 == 0) && (digit2 % 4 != 0)) ? digit2 :
```

```
0;
        evenCount += ((digit3 % 2 == 0) && (digit3 % 4 != 0)) ? 1 : 0;
        evenSum += ((digit3 % 2 == 0) && (digit3 % 4 != 0)) ? digit3 :
0;
        evenCount += ((digit4 % 2 == 0) && (digit4 % 4 != 0)) ? 1 : 0;
        evenSum += ((digit4 % 2 == 0) && (digit4 % 4 != 0)) ? digit4 :
0;

        // finding number of odd digit and sum of those odd digit
        oddCount += ((digit1 % 2 != 0) && (digit1 % 3 != 0)) ? 1 : 0;
        oddSum += ((digit1 % 2 != 0) && (digit1 % 3 != 0)) ? digit1 :
0;
        oddCount += ((digit2 % 2 != 0) && (digit2 % 3 != 0)) ? 1 : 0;
        oddSum += ((digit2 % 2 != 0) && (digit2 % 3 != 0)) ? digit2 :
0;
        oddCount += ((digit3 % 2 != 0) && (digit3 % 3 != 0)) ? 1 : 0;
        oddSum += ((digit3 % 2 != 0) && (digit3 % 3 != 0)) ? digit3 :
0;
        oddCount += ((digit4 % 2 != 0) && (digit4 % 3 != 0)) ? 1 : 0;
        oddSum += ((digit4 % 2 != 0) && (digit4 % 3 != 0)) ? digit4 :
0;

        float avgEvenSum = evenSum / evenCount;
        float avgOddSum = oddSum / oddCount;

        float diff = avgEvenSum - avgOddSum;

        System.out.println("The number is : " + n);
        System.out.println("The difference is " + diff);
    }
}
```

Output-

2675

The number is : 2675

The difference is -2.0

Question-6iv

```
//d) Sum of product of consecutive even digits of any 4 digit number?
Supoose num=1624 then output= 4*2+2*6

package assignment1;

import java.util.Scanner;

public class Question6iv {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a 4 digit number : ");
        int n = sc.nextInt();

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
```

```
        int digit4 = n % 10;

        int sum = 0;
        sum += ((digit1 % 2 == 0) && (digit2 % 2 == 0)) ? (digit1 *
digit2) : 0;
        sum += ((digit2 % 2 == 0) && (digit3 % 2 == 0)) ? (digit2 *
digit3) : 0;
        sum += ((digit3 % 2 == 0) && (digit4 % 2 == 0)) ? (digit3 *
digit4) : 0;

        System.out.println("The number is : " + n);
        System.out.println("Sum of product of consecutive even digits
: " + sum);

    }
}
```

Output-

Enter a 4 digit number :

1624

The number is : 1624

Sum of product of consecutive even digits : 20

Question-6v

```
//e) Sum of product of consecutive odd digits of any 4 digit number?
Supoose num=1356 then output= 5*3+ 3*1

package assignment1;

import java.util.Scanner;

public class Question6v {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number : ");
        int n = sc.nextInt();

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;

        int sum = 0;
        sum += ((digit1 % 2 != 0) && (digit2 % 2 != 0)) ? (digit1 *
digit2) : 0;
        sum += ((digit2 % 2 != 0) && (digit3 % 2 != 0)) ? (digit2 *
digit3) : 0;
        sum += ((digit3 % 2 != 0) && (digit4 % 2 != 0)) ? (digit3 *
digit4) : 0;

        System.out.println("The number is : " + n);
        System.out.println("Sum of product of consecutive odd digits :
" + sum);
```

```
    }
}
```

Output-

Enter a number :

1356

The number is : 1356

Sum of product of consecutive odd digits : 18

Question-6vi

```
//f) Difference between Sum of product of consecutive even digits
except 2 and 6
// and Sum of product of consecutive odd digits except 3 and 7 of any
4 digit number
package assignment1;

import java.util.Scanner;

public class Question6vi {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number : ");
        int n = sc.nextInt();

        int digit1 = n / 1000;
        int digit2 = n / 100 % 10;
        int digit3 = n / 10 % 10;
        int digit4 = n % 10;

        int evenSum = 0, oddSum = 0;
        evenSum += ((digit1 % 2 == 0) && (digit2 % 2 == 0) && ((digit1
!= 2) || (digit1 != 6)) && ((digit1 != 2) || (digit2 != 6)) ) ?
(digit1 * digit2) : 0;
        evenSum += ((digit2 % 2 == 0) && (digit3 % 2 == 0) && ((digit2
!= 2) || (digit2 != 6)) && ((digit3 != 2) || (digit3 != 6)) ) ?
(digit2 * digit3) : 0;
        evenSum += ((digit3 % 2 == 0) && (digit4 % 2 == 0) && ((digit3
!= 2) || (digit3 != 6)) && ((digit4 != 2) || (digit4 != 6)) ) ?
(digit3 * digit4) : 0;

        oddSum += ((digit1 % 2 != 0) && (digit2 % 2 != 0) && ((digit1
!= 3) || (digit1 != 7)) && ((digit1 != 3) || (digit2 != 7)) ) ?
(digit1 * digit2) : 0;
        oddSum += ((digit2 % 2 != 0) && (digit3 % 2 != 0) && ((digit2
!= 3) || (digit2 != 7)) && ((digit3 != 3) || (digit3 != 7)) ) ?
(digit2 * digit3) : 0;
        oddSum += ((digit3 % 2 != 0) && (digit4 % 2 != 0) && ((digit3
!= 3) || (digit3 != 7)) && ((digit4 != 3) || (digit4 != 7)) ) ?
(digit3 * digit4) : 0;

        int diff = evenSum - oddSum;
        System.out.println("The number is : " + n);
        System.out.println(evenSum);
```

```
        System.out.println(oddSum);
        System.out.println("The difference is : " + diff);
    }
}
```

Output-

The number is : 8459

32

45

The difference is : -13

Question-6vii

```
//g) Write a java program to find sum of product of corresponding even
digits of first any digit number
// and corresponding odd digit of any 4 digit number Such as n=1234
m=4567 output=4*7+2*5
package assignment1;

import java.util.Scanner;

public class Questionvii {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a first 4 digit number : ");
        int n1 = sc.nextInt();
        System.out.println("Enter a second  4 digit number : ");
        int n2 = sc.nextInt();

        int fd1 = n1 / 1000;
        int fd2 = n1 / 100 % 10;
        int fd3 = n1 / 10 % 10;
        int fd4 = n1 % 10;

        int sd1 = n2 / 1000;
        int sd2 = n2 / 100 % 10;
        int sd3 = n2 / 10 % 10;
        int sd4 = n2 % 10;

        int sum = 0;
        sum += ((fd1 % 2 == 0) && (sd1 % 2 != 0)) && (fd1 % sd1 != 0)
? (fd1 * sd1) : 0;
        sum += ((fd2 % 2 == 0) && (sd2 % 2 != 0)) && (fd2 % sd2 != 0)
? (fd2 * sd2) : 0;
        sum += ((fd3 % 2 == 0) && (sd3 % 2 != 0)) && (fd3 % sd3 != 0)
? (fd3 * sd3) : 0;
        sum += ((fd4 % 2 == 0) && (sd4 % 2 != 0)) && (fd4 % sd4 != 0)
? (fd4 * sd4) : 0;

        System.out.println("The first number is : " + n1);
        System.out.println("The second number is : " + n2);
        System.out.println("The sum is : " + sum);
    }
}
```

Output-

Enter a first 4 digit number :

1234

Enter a second 4 digit number :

4567

The first number is : 1234

The second number is : 4567

The sum is : 38

END