**ASSIGNMENT-01**

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**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;  
  
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**

/\* 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;  
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**

//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  
  
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**

//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**