Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 21
Problem	Question description India is the largest democracy in the world. The citizens of India have the right to choose their leaders through the process of elections. There are certain requirements for a candidate to be eligible in order to contest in the decision-making process of elections and one of the requirements is age John is working in the Election Commission of India, Can you help him to write a program to check whether a candidate is eligible to contest? Condition for Eligibility as per the Constitution on India is (i) Eligible if age ≥ 25 (ii) Not Eligible if age <25 Constraints 1≤age≤100 Input Format: The only line of input has single value of type integer representing age. Output Format: Print as Eligible or Not Eligible based on the eligibility criteria in a single line.				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
	public static void main(String[] args) {
		Scanner in = new Scanner(System.in);
		int age = in.nextInt();
		if(age>=25)
		{
		   System.out.println("Eligible");
		}
		else
		{
		   System.out.println("Not Eligible");
		}
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 22
Problem	Question description Jones has got a task from his boss and he needs to finish it by evening He gave him a set of phone numbers and he has to reverse the digits of those phone numbers and generate new phone numbers which are going to be used by the company Help Jones to complete the task quick since he wants to watch the football match this evening Constraints 1≤n≤100 1≤k≤10 Input Format: First line, contains n number of test cases Followed by no. of phone numbers Output Format: Reversed digits of n phone numbers in separate lines				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
        public static void main(String[] args) {
           Scanner input = new Scanner(System.in);
           int n,remainder,reverse;
           n=input.nextInt();
           while(n!=0)
           {
              int num=input.nextInt();
              remainder=0;reverse=0;
              while(num>0)
              {
              remainder=num%10;
              reverse=reverse*10;
              reverse+=remainder;
              num/=10;
              }

              System.out.println(reverse);
              n--;

           }
```

```
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 23
Problem	Question description Selvan is solving his mathematics homework He came across a question where he needed to calculate the sum of first n natural numbers and check whether the sum is odd or even Can you help him solve this problem since he is running out of time and he needs to submit his homework tomorrow. Formula: Sum of n natural numbers= (n x (n+1))/2 Constraints 1≤n≤1000 Input Format: Only one line of input has one integer n Output Format: First line, print sum of first n natural number Second line, print whether "Even" or "Odd"				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
	public static void main(String[] args) {
		Scanner x = new Scanner(System.in);
		int n,sum;
		n = x.nextInt();
		sum=(n*(n+1))/2;
		System.out.println(sum);
		if(n%2==0)
		System.out.println("Even");
		else
		System.out.println("Odd");
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 24

Problem

Question description

Thomas is playing a game with his friend Taylor. They have a pile containg N coins. Players take alternate turns, removing some coins from the pile. On each turn, a player can remove either one coin or coins equal to some prime power (i.e. p^x coins, where p - prime number and x - positive integer). Game ends when the pile becomes empty. The player who can not make a move in his turn loses.

Thomas plays first. Your task is to find out who will win the game, provided that both of the player play optimally.

Constraints:

$1 \leq T \leq 1000$

$1 \leq N \leq 10^9$

Input Format:

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows.

The only line of each test case contains one integer N

Output Format:

For each test case, output a single line containing one word - the name of the winner of the game. Print "Thomas" (without quotes) if Thomas wins the game, print "Taylor" (without quotes) otherwise.

```
import java.io.*;
import java.util.*;
public class Class232241010020 {
        public static void main(String[] args) {
           Scanner sc = new Scanner(System.in);
           int t = sc.nextInt();
           while(t > 0){
              int n = sc.nextInt();
              if(n%6!=0){
                 System.out.println("Thomas");
              }
              else{
                System.out.println("Taylor");
              }
              t--;
           }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 25

Problem

Question description

Jordan works at the admissions office in a university and he is designing an online form for the next year intake process.

An applicant has to enter their gender as a part of the details in the form.

Can you help him write a program that will help the form system identify whether the applicant is "Male" or "Female" when they select 'M' or 'F'

Constraints

$1 \leq |S| \leq 10^5$

Input Format:

Single line input has character input of either m,M,f,F

Output Format:

Print the corresponding gender as "Male" or "Female"

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
    public static void main(String[] args) {
        char ch;
        Scanner sc = new Scanner(System.in);
        ch = sc.next().charAt(0);
        switch(ch){
          case 'm':
            System.out.println("Male");
            break;
          case 'M':
            System.out.println("Male");
            break;
          case 'f':
            System.out.println("Female");
            break;
          case 'F':
            System.out.println("Female");
            break;
          default:
            System.out.println("None");
        }
    }
```

}

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 26

Problem

Question description

Max has X coins worth 1 rupee each and Y coins worth 2 rupees each. He wants to distribute all of these X+Y coins to his two sons so that the total value of coins received by each of them is the same. Find out whether Max will be able to do so.

Constraints:

$1 \le T \le 10^3$

$0 \le X,Y \le 10^8$

$X+Y>0$

Input Format:

The first line of input contains a single integer T, denoting the number of testcases.

The description of T test cases follows. Each test case consists of a single line of input containing two space- separated integers X and Y.

Output Format:
For each test case, print "YES" (without quotes) if Chef can distribute all the coins equally and "NO" otherwise.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                int n = input.nextInt();
                while(n!=0)
                {
                   int x=input.nextInt();
                   int y=input.nextInt();
                   int amt = x + (y*2);
                   if(amt % 2 == 0 )
                      System.out.println("YES");
                   else
                      System.out.println("NO");
                  n--;
           }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 27

Problem

Question description

Bruce has just entered a lottery contest where he gets a chance to win 1000$

He must answer a simple question to qualify for the next round

He has to count the number of multiples of 7 between 1 and the given number n

Can you help him to win this lottery so that he can have a nice summer vacation?

Constraints

$1 \le n \le 10^5$

Input Format:
Single line input has integer value n

Output Format:

Print the number of multiples of 7 between 1 to n

```
import java.io.*;
import java.util.*;
public class Class232241010020 {
        public static void main(String[] args) {
                Scanner in = new Scanner(System.in);
                long value=in.nextInt();
                int count=0;
                for(int i=7;i<value;i++)
                   if(i%7==0)
                      count++;
                System.out.println(count);
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 28

Problem

Question description:

Stephen has three shoes of the same size lying around. Each shoe is either a left shoe (represented using 0) or a right shoe (represented using 1). Given A, B, C, representing the information for each shoe, find out whether he can go out now, wearing one left shoe and one right shoe.

Constraints:

$1 \le T \le 8$

$0 \le A,B,C \le 1$

Input Format:

The first line contains an integer T, the number of test cases. Then the test cases follow

Each test case contains a single line of input, three integers A, B, C.

Output Format:

For each test case, output in a single line the answer: 1 if it's possible to go out with a pair of shoes and 0 if not.

```
import java.io.*;
import java.util.*;
public class Class232241010020 {
```

```
        public static void main(String[] args) {
                Scanner in = new Scanner(System.in);
                int a,b,c;
                int t=in.nextInt();
                for(int i=0;i<t;i++){
                   a=in.nextInt();
                   b=in.nextInt();
                   c=in.nextInt();
                   if(a+b+c<3 && a+b+c>=1)
                      System.out.println(1);
                   else
                      System.out.println(0);
                }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 29

Problem

Question description

Steve and his friend went outside to watch a movie.

On their way back home they thought to play a game for fun

They need to count the number of digits of any number they come across let it be a vehicle license, street no. ,addresses any random number as quickly as possible

Constraints

$1 \le k \le 100$

$1 \le m \le 10000$

Input Format:

First line integer input, n number of testcases

Followed by the n lines of integer numbers

Output Format:

Number of digits of corresponding number in separate line

```
import java.io.*;
import java.util.Scanner;
public class Class232241010020 {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                long k,c;
                int n = input.nextInt();
```

```
            while(n!=0)
            {
               c=0;
               k=input.nextInt();
               while(k>0)
               {
                  k=k/10;
                  c++;
               }
               System.out.println(c);
               n--;
            }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 30

Problem

Question description:

Ralph is the organizer and promoter for the magnum opus Beatdown.

There are n people who want to take part in Beatdown. In the competition, a team should consist of exactly two people (as opposed to the real contest, where single-member teams are allowed). Of course, a person can only participate in a single team. Out of these, 2 * m people have already formed their teams, i.e. there are m teams already formed. The remaining people want to participate and make teams amongst themselves. Can you please tell whether it is possible to divide them into teams so that all the n people can participate?

Constraints:

$1 \le T \le 100$

$2 \le n \le 100$

$1 \le m \le n / 2$

$1 \le u_i, v_i \le n$

The m already formed teams will be valid.

Input Format:

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows.

The first line of each test case contains two space separated integers n, m.

The i-th of the next m lines contains two space separated integers u_i, v_i denoting that the pair of people u_i, and v_i have decided to form a team.

Output Format:

For each test case, output "yes" or "no" (without quotes) corresponding to the answer of the problem.

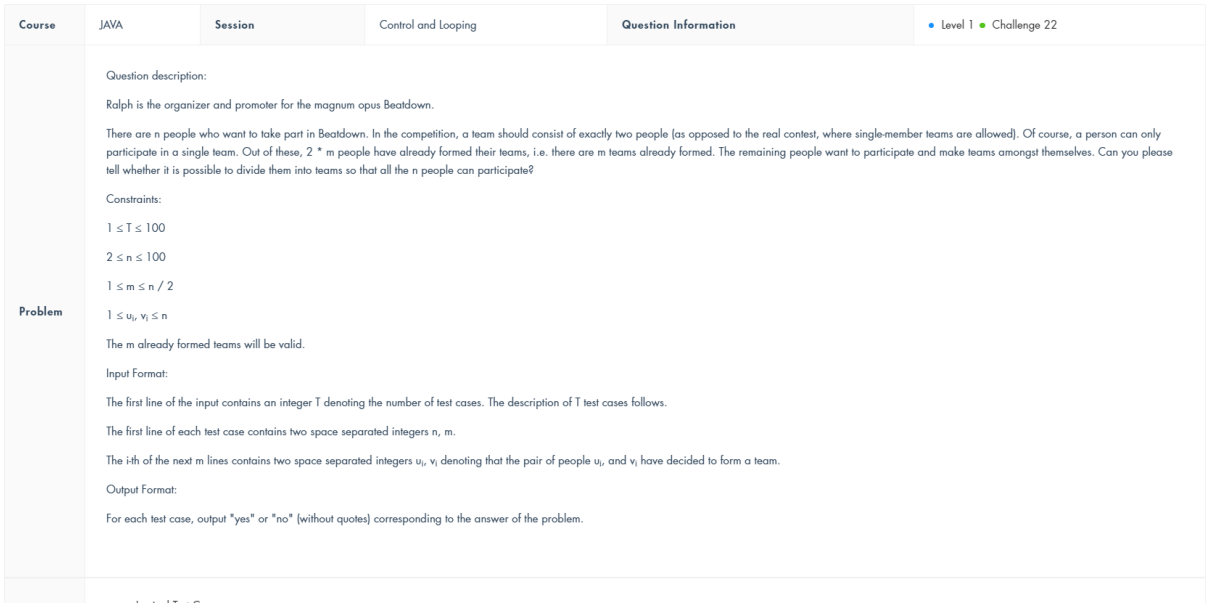
```
import java.io.*;
import java.util.*;
public class Class232241010020 {
        public static void main(String[] args) {
                Scanner x = new Scanner(System.in);
                int t = x.nextInt();
                while(t-- > 0) {
```

```
            int n = x.nextInt();
            int m = x.nextInt();
            while(m-- > 0) {
               x.nextInt();
               x.nextInt();
            }
            if(n % 2 == 0) System.out.println("yes");
            else System.out.println("no");
            }
            x.close();
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 21
Problem	Question description Steve and his friend went outside to watch a movie. On their way back home they thought to play a game for fun They need to count the number of digits of any number they come across let it be a vehicle license, street no. ,addresses any random number as quickly as possible Constraints 1≤k≤100 1≤m≤10000 Input Format: First line integer input, n number of testcases Followed by the n lines of integer numbers Output Format: Number of digits of corresponding number in separate line				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
        public static void main(String[] args) {
            Scanner input = new Scanner(System.in);
            long k,c;
            int n = input.nextInt();
            while(n!=0)
            {
               c=0;
```

```
                k=input.nextInt();
                while(k>0)
                {
                   k=k/10;
                   c++;
                }
                System.out.println(c);
                n--;
            }
        }
}
```



Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 22

Problem

Question description:

Ralph is the organizer and promoter for the magnum opus Beatdown.

There are n people who want to take part in Beatdown. In the competition, a team should consist of exactly two people (as opposed to the real contest, where single-member teams are allowed). Of course, a person can only participate in a single team. Out of these, 2 * m people have already formed their teams, i.e. there are m teams already formed. The remaining people want to participate and make teams amongst themselves. Can you please tell whether it is possible to divide them into teams so that all the n people can participate?

Constraints:

$1 \le T \le 100$

$2 \le n \le 100$

$1 \le m \le n / 2$

$1 \le u_i, v_i \le n$

The m already formed teams will be valid.

Input Format:

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows.

The first line of each test case contains two space separated integers n, m.

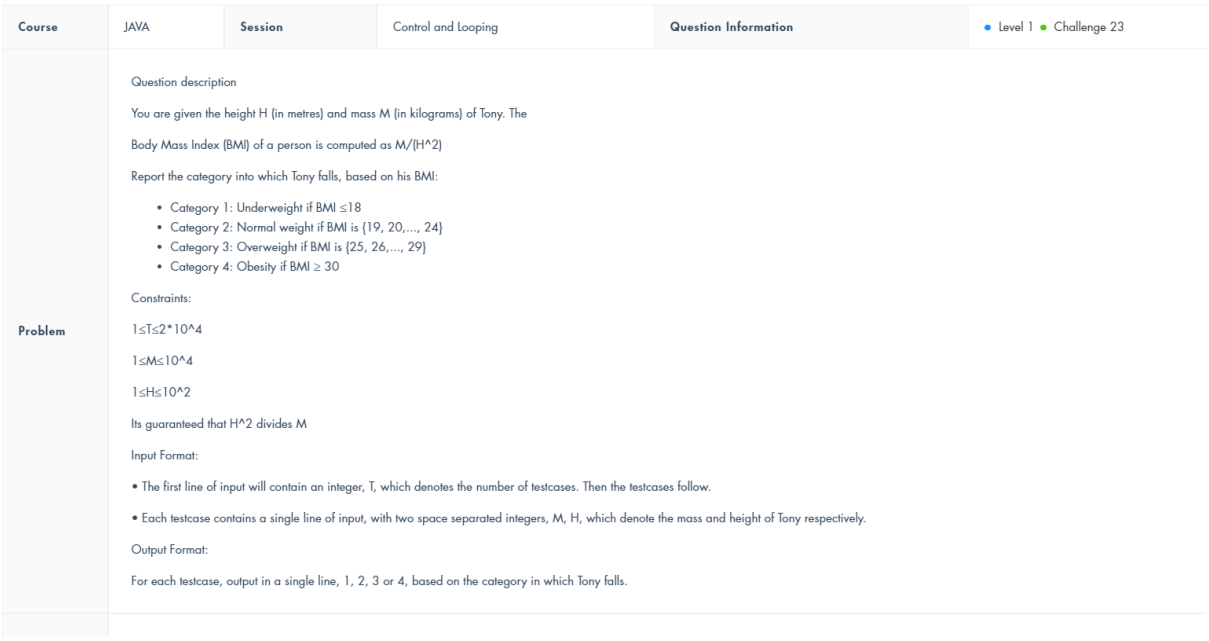
The i-th of the next m lines contains two space separated integers u_i, v_i denoting that the pair of people u_i, and v_i have decided to form a team.

Output Format:

For each test case, output "yes" or "no" (without quotes) corresponding to the answer of the problem.

```
import java.io.*;
import java.util.*;
public class Class232241010096 {
        public static void main(String[] args) {
            Scanner x = new Scanner(System.in);
            int t = x.nextInt();
            while(t-- >0){
               int n = x.nextInt();
               int m = x.nextInt();
               while(m-- >0){
```

```
                x.nextInt();
                x.nextInt();
            }
            if(n%2==0)
                System.out.println("yes");
            else
                System.out.println("no");
        }
    }
}
```



Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 23

Problem

Question description

You are given the height H (in metres) and mass M (in kilograms) of Tony. The

Body Mass Index (BMI) of a person is computed as M/(H^2)

Report the category into which Tony falls, based on his BMI:

- Category 1: Underweight if BMI ≤18
- Category 2: Normal weight if BMI is {19, 20,..., 24}
- Category 3: Overweight if BMI is {25, 26,..., 29}
- Category 4: Obesity if BMI ≥ 30

Constraints:

1≤T≤2*10^4

1≤M≤10^4

1≤H≤10^2

Its guaranteed that H^2 divides M

Input Format:

• The first line of input will contain an integer, T, which denotes the number of testcases. Then the testcases follow.

• Each testcase contains a single line of input, with two space separated integers, M, H, which denote the mass and height of Tony respectively.

Output Format:

For each testcase, output in a single line, 1, 2, 3 or 4, based on the category in which Tony falls.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
        public static void main(String[] args) {
            Scanner input = new Scanner(System.in);
            float bmi,m,h;
            int n=input.nextInt();
            while(n!=0)
            {
                m=input.nextFloat();
```

```
                h=input.nextFloat();
                bmi=m/(h*h);
                if(bmi<=18)
                   System.out.println(1);
                else if(bmi>=18.1 && bmi<=24)
                   System.out.println(2);
               else if(bmi>=24.1 && bmi<=29)
                   System.out.println(3);
              else
              System.out.println(4);
              n--;
             }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 24

Problem

Question description

Max has X coins worth 1 rupee each and Y coins worth 2 rupees each. He wants to distribute all of these X+Y coins to his two sons so that the total value of coins received by each of them is the same. Find out whether Max will be able to do so.

Constraints:

$1 \le T \le 10^3$

$0 \le X, Y \le 10^8$

$X+Y>0$

Input Format:

The first line of input contains a single integer T, denoting the number of testcases.

The description of T test cases follows. Each test case consists of a single line of input containing two space- separated integers X and Y.

Output Format:
For each test case, print "YES" (without quotes) if Chef can distribute all the coins equally and "NO" otherwise.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                int n = input.nextInt();
                while(n!=0)
                {
                   int x=input.nextInt();
                   int y=input.nextInt();
```

```
                int amt = x + (y*2);
                if(amt % 2 == 0 )
                    System.out.println("YES");
                else
                    System.out.println("NO");
                n--;
            }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 25

Problem

Question description

Charles has three socks in his drawer. Each sock has one of 10 possible colors, which are represented by integers between 1 and 10. Specifically, the colors of the socks are A,B and C

Charles has to wear two socks which have the same color. Help Charles find out if that is possible or not. Charles has three socks in his drawer. Each sock has one of 10 possible colors, which are represented by integers between 1 and 10. Specifically, the colors of the socks are A,B and C

Charles has to wear two socks which have the same color. Help Charles find out if that is possible or not.

Explanation:

Since there are no two socks with the same color, Charles cannot wear a pair of socks with the same color.

Constraints

$1 \le A,B,C \le 10$

Input Format:

The first and only line of the input contains three space-separated integers A,B and C

Output Format:

Print a single line containing the string "YES" if it is possible for Charles to wear two socks with the same color or "NO" if it is impossible.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
        public static void main(String[] args) {
                Scanner input = new Scanner(System.in);
                int A=input.nextInt();
                int B=input.nextInt();
                int C=input.nextInt();
                if( A==B || A==C || B==C)
                    System.out.println("YES");
                else
                    System.out.println("NO");
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 26

Problem

Question description

There are three friends, let's call them Ben, Ray and Roger. They made the following statements:

- Ben: "I have x dollars more than Ray."
- Ray: "I have y dollars more than Roger."
- Roger: "I have z dollars more than Ben."

You do not know the exact values of x, y, z. Instead, you are given their absolute values, i.e. X = |x|, Y = |y| and Z = |z|. Note that x, y, z may be negative; "having –d dollars more" is the same as "having d dollars less".

Find out if there is some way to assign amounts of money to Ben, Ray, Roger such that all of their statements are true.

Constraints

1≤t≤1000

1≤X,Y,Z≤1000

Input Format:

The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The first and only line of each test case contains three space-separated integers X, Y and Z.

Output Format:

For each test case, print a single line containing the string "yes" if the presented scenario is possible or "no" otherwise (without quotes)

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
	public static void main(String[] args) {
		Scanner in = new Scanner(System.in);
		int t = in.nextInt();
		while(t-->0){
		   int x=in.nextInt();
		   int y=in.nextInt();
		   int z=in.nextInt();
		   if((x-y+z)==0 ||(x+y-z)==0 || (-x+y+z)==0)
		      System.out.println("yes");
		   else
		      System.out.println("no");
		}
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 27
Problem	Question description Bill was solving some problems in his math textbook and after he was done his friend Ray gave him a challenge He gave him the sizes of angles of a simple quadrilateral (in degrees) A,B,C and D in some order along its perimeter. Bill has to determine whether the quadrilateral is cyclic. Note: A quadrilateral is cyclic if and only if the sum of opposite angles is 180 degrees Constraints: 1≤T≤10^4 1≤A,B,C,D≤357 A+B+C+D=360 Input Format: The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows. The first and only line of each test case contains four space-separated integers A, B, C and D. Output Format: Print a single line containing the string "YES" if the given quadrilateral is cyclic or "NO" if it is not (without quotes).				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096{
        public static void main(String[] args) {
          Scanner input = new Scanner(System.in);
          int A,B,C,D;
          int n=input.nextInt();
          while(n!=0)
          {
            A=input.nextInt();
            B=input.nextInt();
            C=input.nextInt();
            D=input.nextInt();
            if((A+C)==(B+D))
               System.out.println("YES");
           else
               System.out.println("NO");
            n--;
          }
        }
}
```

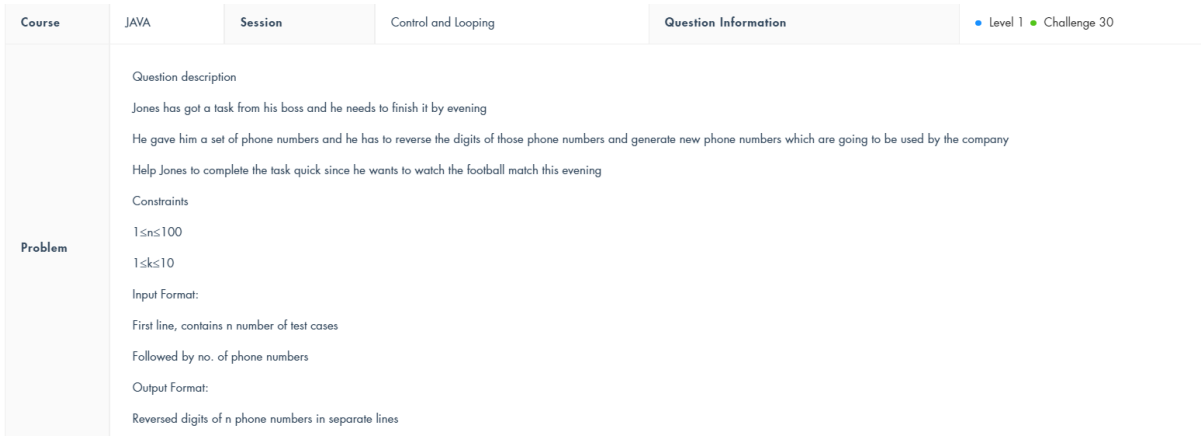
Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 28
Problem	Question description India is the largest democracy in the world. The citizens of India have the right to choose their leaders through the process of elections. There are certain requirements for a candidate to be eligible in order to contest in the decision-making process of elections and one of the requirements is age John is working in the Election Commission of India, Can you help him to write a program to check whether a candidate is eligible to contest? Condition for Eligibility as per the Constitution on India is (i) Eligible if age ≥ 25 (ii) Not Eligible if age <25 Constraints 1≤age≤100 Input Format: The only line of input has single value of type integer representing age. Output Format: Print as Eligible or Not Eligible based on the eligibility criteria in a single line.				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
	public static void main(String[] args) {
		Scanner in = new Scanner(System.in);
		int age = in.nextInt();
		if(age>=25)
		   System.out.println("Eligible");
		else
		   System.out.println("Not Eligible");
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 29
Problem	Question description John has a little brother and his name is Mathew. Mathew is really young and is just starting to learn english, John wants to explain him about consonants and vowels Help john to write a program that takes a letter as input and displays whether the entered character is a consonant or vowel Constraints 1≤N≤10^5 |S|=N Input Format: Single line input has a character input of single letter Output Format: Print whether it is a "Vowel" or "Consonant"				

```
import java.io.*;
import java.util.Scanner;
```

```
public class Class232241010096 {
	public static void main(String[] args) {
		Scanner input = new Scanner(System.in);
		char ch = input.next().charAt(0);
		if(ch=='A' || ch=='E' || ch=='I' || ch=='O' || ch=='U' || ch=='a' || ch=='e' || ch=='i' || ch=='o' || ch=='u')
		System.out.println("Vowel");
		 else
		System.out.println("Consonant");
	}
}
```



Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 30

Problem

Question description

Jones has got a task from his boss and he needs to finish it by evening

He gave him a set of phone numbers and he has to reverse the digits of those phone numbers and generate new phone numbers which are going to be used by the company

Help Jones to complete the task quick since he wants to watch the football match this evening

Constraints

$1 \le n \le 100$

$1 \le k \le 10$

Input Format:

First line, contains n number of test cases

Followed by no. of phone numbers

Output Format:

Reversed digits of n phone numbers in separate lines

```
import java.io.*;
import java.util.Scanner;
public class Class232241010096 {
	public static void main(String[] args) {
		Scanner input = new Scanner(System.in);
		int n,remainder,reverse;
		n=input.nextInt();
		while(n!=0)
		{
		   int num=input.nextInt();
		   remainder=0;reverse=0;
		   while(num>0)
		   {
```

```
                remainder=num%10;
                reverse=reverse*10;
                reverse+=remainder;
                num/=10;
                }
                System.out.println(reverse);
                n--;
            }
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 21
Problem	Question description Bill was solving some problems in his math textbook and after he was done his friend Ray gave him a challenge He gave him the sizes of angles of a simple quadrilateral (in degrees) A,B,C and D in some order along its perimeter. Bill has to determine whether the quadrilateral is cyclic. Note: A quadrilateral is cyclic if and only if the sum of opposite angles is 180 degrees Constraints: 1≤T≤10^4 1≤A,B,C,D≤357 A+B+C+D=360 Input Format: The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows. The first and only line of each test case contains four space-separated integers A, B, C and D. Output Format: Print a single line containing the string "YES" if the given quadrilateral is cyclic or "NO" if it is not (without quotes).				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
        public static void main(String[] args) {
         int A,B,C,D;
    Scanner sc = new Scanner(System.in);
    int t = sc.nextInt();
          while(t > 0){
          A = sc.nextInt();
          B = sc.nextInt();
          C = sc.nextInt();
          D = sc.nextInt();
          int x = A + C;
```

```
            int y = B + D;
            if(x == 180 && y == 180)
            {
        System.out.println("YES");
            }
      else
      {
        System.out.println("NO");
      }
      t--;
           }
    }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 22
Problem	Question description Steve and his friend went outside to watch a movie. On their way back home they thought to play a game for fun They need to count the number of digits of any number they come across let it be a vehicle license, street no. ,addresses any random number as quickly as possible Constraints 1≤k≤100 1≤m≤10000 Input Format: First line integer input, n number of testcases Followed by the n lines of integer numbers Output Format: Number of digits of corresponding number in separate line				

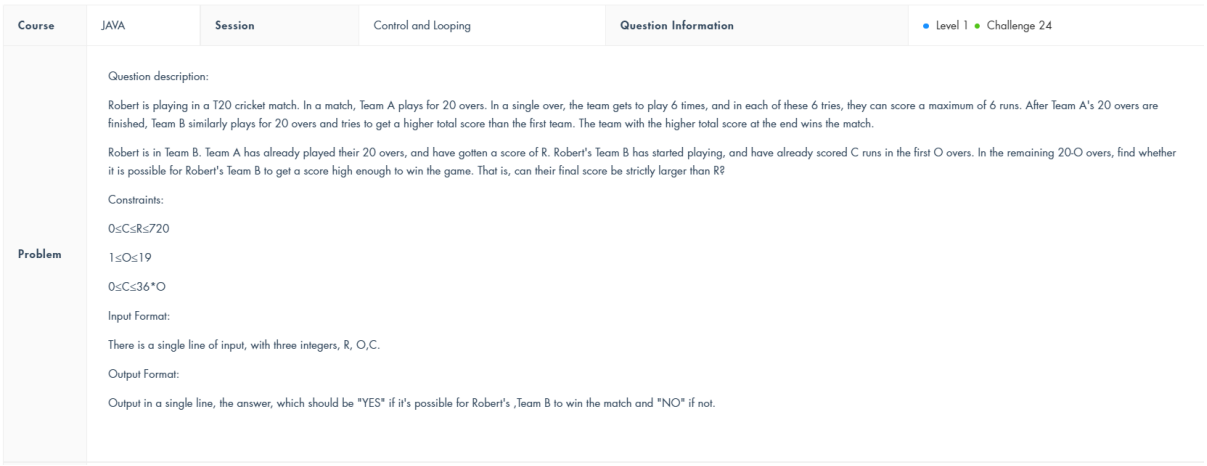
```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
        public static void main(String[] args) {
            Scanner input = new Scanner(System.in);
            long k,c;
            int n = input.nextInt();
            while(n!=0)
            {
              c=0;
```

```
            k=input.nextInt();
            while(k>0)
            {
               k=k/10;
               c++;
            }
            System.out.println(c);
            n--;
          }

        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 23
Problem	Question description Mr. Zach is the head of physical education in a school and the physical education department has decided to analyze the height of all the students. The state championship tournaments are coming up and they have to select a proper basketball team and they want to collect the details of students. Can you help them on this task? Height is taken based on centimeter If the height is ≤150 the person is short If the height is ≥150 and ≤175 the person is average height If the height is >175 and ≤240 the person is Tall Constraints 1≤height≤10^4 Input Format: Single line input has decimal value which specifies height in cm Output Format: Print whether the person is "Tall", "Average Height" or "Short"				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
        public static void main(String[] args) {
        float height;
        Scanner sc = new Scanner(System.in);
        height = sc.nextFloat();
        if (height <= 150){
           System.out.println("Short");
        }
```

```
        else if (height >= 150 && height <= 175){
            System.out.println("Average Height");
        }
        else if (height > 175 && height <= 240){
            System.out.println("Tall");
        }
        else{
            System.out.println("Height is not Found");

        }
        }
}
```



Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 24

Problem

Question description:

Robert is playing in a T20 cricket match. In a match, Team A plays for 20 overs. In a single over, the team gets to play 6 times, and in each of these 6 tries, they can score a maximum of 6 runs. After Team A's 20 overs are finished, Team B similarly plays for 20 overs and tries to get a higher total score than the first team. The team with the higher total score at the end wins the match.

Robert is in Team B. Team A has already played their 20 overs, and have gotten a score of R. Robert's Team B has started playing, and have already scored C runs in the first O overs. In the remaining 20-O overs, find whether it is possible for Robert's Team B to get a score high enough to win the game. That is, can their final score be strictly larger than R?

Constraints:

0≤C≤R≤720

1≤O≤19

0≤C≤36*O

Input Format:

There is a single line of input, with three integers, R, O,C.

Output Format:

Output in a single line, the answer, which should be "YES" if it's possible for Robert's ,Team B to win the match and "NO" if not.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
            public static void main(String[] args) {
        int r,o,c;
        Scanner input = new Scanner(System.in);
                r = input.nextInt();
                o = input.nextInt();
                c = input.nextInt();
               int run = 20 - o;
               int result = 36 * run;
```

```
            int sum = c + result;
            if(r < sum){
        System.out.println("YES");
    } else{
        System.out.println("NO");
             }
            }
}
```

Course	JAVA	Session	Control and Looping	Question Information	Level 1 • Challenge 25
Problem	Question description Bruce has just entered a lottery contest where he gets a chance to win 1000$ He must answer a simple question to qualify for the next round He has to count the number of multiples of 7 between 1 and the given number n Can you help him to win this lottery so that he can have a nice summer vacation? Constraints 1≤n≤10^5 Input Format: Single line input has integer value n Output Format: Print the number of multiples of 7 between 1 to n				

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042{
        public static void main(String[] args) {
                Scanner in = new Scanner(System.in);
                long n,m=0;
                n=in.nextLong();
                for(int i=1;i<=n;i++){
                   if(i%7==0) m++;}
                System.out.println(m);
        }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 26

Problem

Question description

Tim went camping with his friends and they thought to casually roam around in the nature

They come across a lake and they though to play around for a while so they play a small game

There are three piles of stones. The first pile contains a stones, the second pile contains b stones and the third pile contains c stones. Tim must choose one of the piles and split the stones from it to the other two piles, specifically, if the chosen pile initially contained s stones, he should choose an integer k ($0 \leq k \leq s$), move k stones from the chosen pile onto one of the remaining two piles and s – k stones onto the other remaining pile. Determine if it is possible for the two remaining piles (in any order) to contain x stones and y stones respectively after performing this action

Help Tim find the answer to this question.

Constraints:

$1 \leq T \leq 100$

$1 \leq a,b,c,x,y \leq 10^6$

Input Format:

The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The first and only line of each test case contains five space-separated integers a, b, c, x and y

Output Format:

For each test case, print a single line containing the string "YES" if it is possible to obtain piles of the given sizes or "NO" if it is impossible.

```
import java.io.*;
import java.util.*;
public class Class232241010042 {
	public static void main(String[] args) {
		Scanner scanner = new Scanner(System.in);
		int T = scanner.nextInt();
		while (T-- > 0) {
			int a = scanner.nextInt();
			int b = scanner.nextInt();
			int c = scanner.nextInt();
			int x = scanner.nextInt();
			int y = scanner.nextInt();
			int i;
			boolean flag = false;
			for (i = 0; i <= a; i++) if (i + b == x && a - i + c == y) flag = true;
			for (i = 0; i <= b; i++) if (i + a == x && b - i + c == y)  flag = true;
			//for (i = 0; i <= c; i++) if (i + a == x && c - i + b == y) flag = true;
			if (flag) System.out.println("YES");
			else System.out.println("NO");
		}
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 27
Problem	Question description Max has X coins worth 1 rupee each and Y coins worth 2 rupees each. He wants to distribute all of these X+Y coins to his two sons so that the total value of coins received by each of them is the same. Find out whether Max will be able to do so. Constraints: 1≤T≤10^3 0≤X,Y≤10^8 X+Y>0 Input Format: The first line of input contains a single integer T, denoting the number of testcases. The description of T test cases follows. Each test case consists of a single line of input containing two space- separated integers X and Y. Output Format: For each test case, print "YES" (without quotes) if Chef can distribute all the coins equally and "NO" otherwise.				

```
import java.io.*;
import java.util.*;
public class Class232241010042{
   public static void main(String[] args){
   Scanner in =new Scanner(System.in);
      int t=in.nextInt();
      while(t-->0){
        int x=in.nextInt();
        int y=in.nextInt();
        int s=(x*1)+(y*2);
      if(s%2==0)
      System.out.println("YES");
      else System.out.println("NO");
      }
   }
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 28

Problem

Question description:

Ralph is the organizer and promoter for the magnum opus Beatdown.

There are n people who want to take part in Beatdown. In the competition, a team should consist of exactly two people (as opposed to the real contest, where single-member teams are allowed). Of course, a person can only participate in a single team. Out of these, 2 * m people have already formed their teams, i.e. there are m teams already formed. The remaining people want to participate and make teams amongst themselves. Can you please tell whether it is possible to divide them into teams so that all the n people can participate?

Constraints:

$1 \le T \le 100$

$2 \le n \le 100$

$1 \le m \le n / 2$

$1 \le u_i, v_i \le n$

The m already formed teams will be valid.

Input Format:

The first line of the input contains an integer T denoting the number of test cases. The description of T test cases follows.

The first line of each test case contains two space separated integers n, m.

The i-th of the next m lines contains two space separated integers u_i, v_i denoting that the pair of people u_i, and v_i have decided to form a team.

Output Format:

For each test case, output "yes" or "no" (without quotes) corresponding to the answer of the problem.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
        public static void main(String[] args) {
           Scanner x = new Scanner(System.in);
           int t = x.nextInt();
           int n,m;
           for(int i=0; i<t; i++){
              n=x.nextInt();
              m=x.nextInt();
              while(m>0){
                 int u = x.nextInt();
                 int v = x.nextInt();
                 m--;}
                 if(n%2==0)
                 System.out.println("yes");
                 else
                 System.out.println("no");
           }

        }
```

}

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 29

Problem

Question description:

Stephen has three shoes of the same size lying around. Each shoe is either a left shoe (represented using 0) or a right shoe (represented using 1). Given A, B, C, representing the information for each shoe, find out whether he can go out now, wearing one left shoe and one right shoe.

Constraints:

1≤T≤8

0≤A,B,C≤1

Input Format:

The first line contains an integer T, the number of test cases. Then the test cases follow

Each test case contains a single line of input, three integers A, B, C.

Output Format:

For each test case, output in a single line the answer: 1 if it's possible to go out with a pair of shoes and 0 if not.

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
	public static void main(String[] args) {
		int a,b,c;
		Scanner input = new Scanner(System.in);
		int t = input.nextInt();
		while(t-->0){
		   a = input.nextInt();
		   b = input.nextInt();
		   c = input.nextInt();
		   int sum=a+b+c;
		   if(sum>=1&&sum<=2)
		   System.out.println(1);
		   else
		   System.out.println(0);
		}
	}
}
```

Course	JAVA	Session	Control and Looping	Question Information	• Level 1 • Challenge 30

Problem

Question description

There are three friends, let's call them Ben, Ray and Roger. They made the following statements:

- Ben: "I have x dollars more than Ray."
- Ray: "I have y dollars more than Roger."
- Roger: "I have z dollars more than Ben."

You do not know the exact values of x, y, z. Instead, you are given their absolute values, i.e. X = |x|, Y = |y| and Z = |z|. Note that x, y, z may be negative; "having –d dollars more" is the same as "having d dollars less".

Find out if there is some way to assign amounts of money to Ben, Ray, Roger such that all of their statements are true.

Constraints

1≤t≤1000

1≤X,Y,Z≤1000

Input Format:

The first line of the input contains a single integer T denoting the number of test cases. The description of T test cases follows.

The first and only line of each test case contains three space-separated integers X, Y and Z.

Output Format:

For each test case, print a single line containing the string "yes" if the presented scenario is possible or "no" otherwise (without quotes)

```
import java.io.*;
import java.util.Scanner;
public class Class232241010042 {
        public static void main(String[] args) {
           Scanner in = new Scanner(System.in);
           int t=in.nextInt();
           while(t-->0){
              int x=in.nextInt();
              int y=in.nextInt();
              int z=in.nextInt();
              if((x-y+z)==0||(x+y-z)==0||(-x+y+z)==0)
              System.out.println("yes");
             else System.out.println("no");
           }
       }
}
```