1. Chef is a software developer, so he has to switch between different languages sometimes. Each programming language has some features, which are represented by integers here. Currently, Chef has to use a language with two given features A and B. He has two options --- switching to a language with two features A1 and B1, or to a language with two features A2 and B2. All four features of these two languages are pairwise distinct. Tell Chef whether he can use the first language, the second language or neither of these languages (if no single language has all the required features)

```
#include <bits/stdc++.h>
using namespace std;
typedef long long ll;
#define forn(i,e) for(ll i = 0; i < e; i++)
void solve()
 {
    ll a,b,a1,b1,a2,b2;
    cin>>a>>b>>a1>>b1>>a2>>b2;
     if(a > b) swap(a,b);
     if(a1 > b1) swap(a1,b1);
     if(a2 > b2) swap(a2,b2);

    if(a == a1 && b == b1)

    {

    cout<<1<<endl;

    }

    else if(a == a2 && b == b2)
     { cout<<2<<endl;

    }

    else
    {
     cout<<0<<endl;
     }
     }
    int main()
    {
    ll t=1; cin >> t;
     forn(i,t)
     {
    solve();
    } return 0;

    }
```

2. You have prepared four problems. The difficulty levels of the problems are A1,A2,A3,A4 respectively. A problem set comprises two problems and no two problems in a problem set should have the same difficulty level. A problem can belong to at most one problem set. Find the maximum number of problem sets you can create using the four problems.

```
T = int(input())

for i in range(T):

    l = list(map(int, input().split()))

    a = set(l)

    if (len(a) == 4):

        print(2)

    elif (len(a) == 3):

        print(2)

    elif (len(a) == 2):

        l.sort()

        b = l[0]

        if(l.count(b) == 2):

            print(2)

        else:

            print(1)

    else:

        print(0)
```

3. Develop a python code to check given two dates d1 and d1 , check whether d1 is less than d2 or d1 is greater than d2 or d1 is equal to d2.

```
# importing datetime module

import datetime


# date in yyyy/mm/dd format

d1 = datetime.datetime(2022, 11, 14)

d2 = datetime.datetime(2022, 10, 19)


# Comparing the dates will return

# either True or False

print("d1 is greater than d2 : ", d1 > d2)

print("d1 is less than d2 : ", d1 < d2)

print("d1 is not equal to d2 : ", d1 != d2)
```

4. Develop python code to add, subtract , multiply and divide two distances where each distance contains two things of the format KM followed by Meters.

```
# Python program to perform Addition Subtraction Multiplication
# and Division of two things of km and m format

num1 = int(input("Enter First thing: "))
num2 = int(input("Enter Second thing: "))
print("Enter which operation would you like to perform?")
ch = input("Enter any of these char for specific operation +,-,*,/: ")

result = 0if ch == '+':
    result = num1 + num2elif ch == '-':
    result = num1 - num2elif ch == '*':
    result = num1 * num2elif ch == '/':
    result = num1 / num2else:
```

```
        print("Input character is not recognized!")

print(num1, ch , num2, ":", result)
```