

```
#include <stdio.h>

union Time{
    int A,B,C,D,E,F;
};

int main()
{
    union Time harsh;
    scanf("%d",&harsh.A);

    int temp1=harsh.A;
    scanf("%d",&harsh.B);
    printf("%d\n",temp1-harsh.B);
    scanf("%d",&harsh.C);temp1=harsh.C;
    scanf("%d",&harsh.D);
    printf("%d\n",temp1-harsh.D);
    scanf("%d",&harsh.E);temp1=harsh.E;
    scanf("%d",&harsh.F);
    printf("%d\n",temp1-harsh.F);

    return 0;}
```

Question Description

Aabheer and Selvan are both neighbors. Both always go for morning walks.

Selvan is very arrogant, But Aabheer is a little quiet.

Everyday Selvan used to claim that the both have covered some distance together.

But Aabheer didn't agreed to it.

So they decided to find the total distance covered by both of them together using programming logic.

Can you help them do so?

Problem

Constraints

$1 \leq \text{feet} \leq 800$
 $1 \leq \text{inches} \leq 25$

Input Format:

First line of input has two value of type integer and float representing d1(feet) and d2 (inches) covered by Selvan
Second line of input has two value of type integer and float representing d1(feet) and d2 (inches) covered by Aabheer

Output Format:

In the only line of output print the Sum of distances in feet and inches (two digits after decimal point)

Logical Test Cases

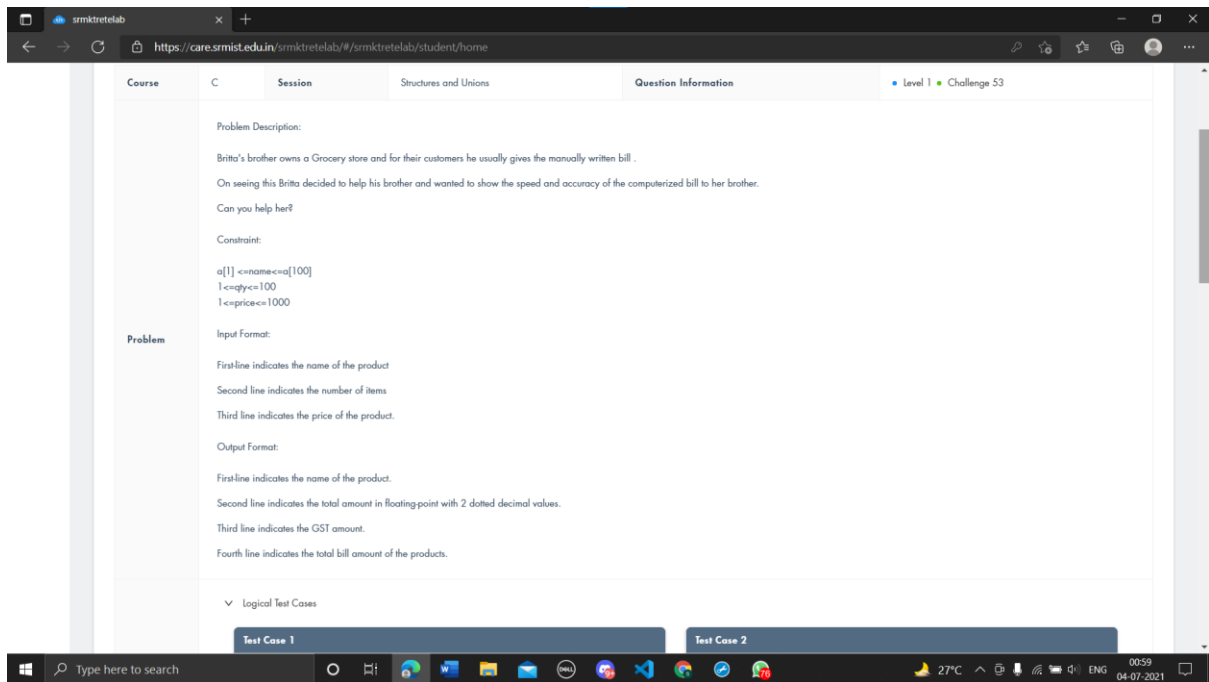
Test Case 1	Test Case 2
INPUT (STDIN)	INPUT (STDIN)
13 5.6 38 2.4	25 5.4 74 2.5
EXPECTED OUTPUT	EXPECTED OUTPUT

```
#include <stdio.h>

struct Distance
{
    int d1,d3;
    float d2,d4;
};

int main()
{
    int res1;
    float res2;
    struct Distance harsh;
    scanf("%d %f %d %f",&harsh.d1,&harsh.d2,&harsh.d3,&harsh.d4);
    res1=harsh.d1+harsh.d3;
    res2=harsh.d2+harsh.d4;
    printf("%d feet and %0.2f inches",res1,res2);

    return 0;
}
```



```
#include <stdio.h>

#include<string.h>

struct groceryshop
{
    int qty;
    float price,gst;
};

int main()
{ struct groceryshop tax;
  char ch[10];
  scanf("%s",ch);
  scanf("%f %d",&tax.price,&tax.qty); tax.gst=0.14;float total=tax.price*tax.qty;
  printf("%s\n%.2f\n%.2f\n%.2f",ch,total,total*tax.gst,total+(total*tax.gst));
  return 0;
}
```

The screenshot shows a web browser window with the URL <https://care.srmist.edu.in/srmkretelab/#/srmkretelab/student/home>. The page displays a programming problem titled "Structures and Unions" under the "Question Information" tab. The problem is "Level 1" and "Challenge 54".

Problem Description:
 Director Manirathnam wants to direct a movie on a high budget. So He was searching for a historical novels in the book shop. One of his friend P C Sreeram suggested him some of the best novels that can be converted into movie. Based on his suggestion Manirathnam has collected Name, Author, and Genre details of those books. Since the number of books is huge Manirathnam is seeking for your help in arranging the details collected by him in a particular format so that it will be helpful for him to move into story discussion. Can you help him?

Constraints:
 $1 \leq |S| \leq 100$

Input Format:
 First line of the input has a single value of type string representing Name of the Book
 Second line of the input has a single value of type string representing Author of the Book
 Third line of the input has a single value of type string representing Genre of the Book

Output Format:
 Print the details of the novels in the format expected by Manirathnam .
 Refer sample testcases for format specification.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN) PonnysinSelvan KalkiKrishnaurthy Historical EXPECTED OUTPUT	INPUT (STDIN) Wingsoffire AbdulKalam Autobiography EXPECTED OUTPUT

```
#include <stdio.h>

union book
{
    char ch[100];
};

int main()
{ union book b1;
  scanf("%s",b1.ch);
  printf("Title:%s\n",b1.ch);
  scanf("%s",b1.ch);
  printf("Writer:%s\n",b1.ch);
  scanf("%s",b1.ch);
  printf("Genre:%s",b1.ch);

  return 0;
}
```

Course: C Session: Structures and Unions Question Information: Level 1 Challenge 55

Problem Description:

Isaac has a water leak in his bathroom. So, he had invited two workers for the waterproofing of his bathroom. But due to the shortage of workers, this work took longer than required.

Because Isaac is a middle-class man, he worries a little about the money he has to pay them.

So, help him by developing a programming logic to find the total amount each worker has to pay individually.

Constraints:

$1 \leq \text{name} \leq 100$
 $1 \leq \text{wsal} \leq 100$
 $1 \leq \text{wdays} \leq 100$

Input Formats:

Get the input of each test case that contains a string value representing name, wsal, wdays.

Output Formats:

Display the output of Worker's Name, total Payment of Workers in a separate line.

Refer Sample Testcases.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN) Nathan 500	INPUT (STDIN) Sam 500

```
#include <stdio.h>

struct worker{
    char name[50];
    int wsal;
    int wdays;
    int total;
};

int main()
{
    struct worker a,b;
    scanf("%s %d %d",a.name,&a.wsal,&a.wdays);
    scanf("%s %d %d",b.name,&b.wsal,&b.wdays);
    printf("%s\n",a.name);
    a.total=(a.wsal)*(a.wdays);
    printf("%d\n",a.total);
    printf("%s\n",b.name);
    b.total=(b.wsal)*(b.wdays);
    printf("%d",b.total);

    return 0;}

```

Course: C Session: Structures and Unions Question Information: Level 1 Challenge 56

Problem

Problem Description:

Meera is a food blogger and all her fans craves for the photos of the new restaurants and its dishes .
Her manager has asked to tell the exact no of photos she is going to post at the end of weekend.
If she posts 3 photos of a dish and there are n dishes at a restaurant.
Can you help her calculate the total photos knowing she will go to 1 restaurant each day?

Constraints:
a[]<name<=a[100]
a[]<dish<=a[100]

Input format:
7 lines of input has two values representing the name of the place and no of dishes per week.

Output Format:
Print the Total number of videos by Joslyn at each restaurant in as single line

Refer Sample Testcases for Formatting

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN)	INPUT (STDIN)
Shimla 21	Delhi 25
Chennai 6	Chennai 6
Mysore 4	Mumbai 40
Kedarnath 23	Kedarnath 23
Amaranth 9	Amaranth 19
Hydrabad 7	Hydrabad 17

```
#include <stdio.h>

struct video
{
    char place[100];
    int vid;
};

int main()
{ int i;

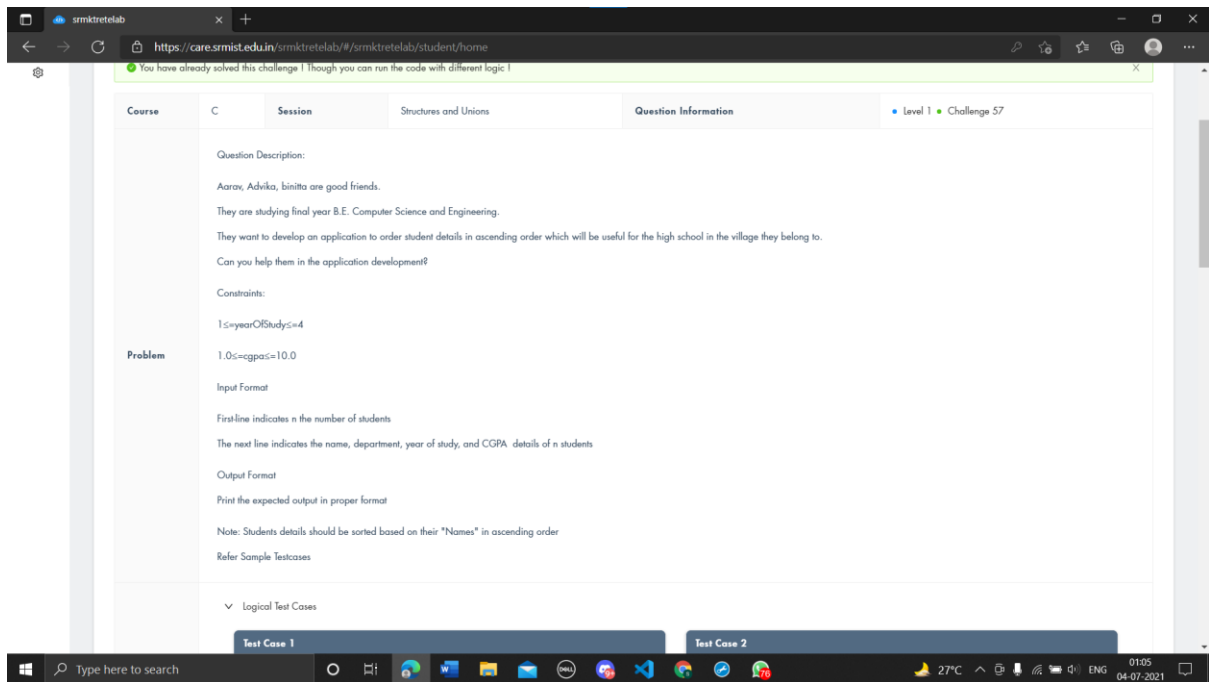
    struct video clip;
    struct video clips[7];

    clip.vid = 0;
    for(i = 0;i<7;i++){
        scanf("%s", clips[i].place);
        scanf("%d", &clips[i].vid);
        clip.vid+=clips[i].vid;
    }

    for(i = 0;i<7;i++){
        printf("%s : ", clips[i].place);
        printf("%d\n", 3*clips[i].vid);
    }

    printf("TOTAL : %d",3*clip.vid);

    return 0;
}
```



```
#include <stdio.h>

#include <string.h>

struct Student{
    char name[50];
    char dept[5];
    int year;
    float gpa;
}

s[100],t;

int main()
{
    int i=0,j=0,n;
    scanf("%d",&n);
    for(i=0;i<n;i++){
        scanf("%s %s %d %f",s[i].name,s[i].dept,&s[i].year,&s[i].gpa);
    }
}
```

```
for(i=0;i<n;i++){
    for(j=i+1;j<n;j++){
        if(strcmp(s[i].name,s[j].name)>0){
            t=s[i];
            s[i]=s[j];
            s[j]=t;
        }
    }
}

for(i=0;i<n;i++){
    printf("Name:%s\n",s[i].name);
    printf("Department:%s\n",s[i].dept);
    printf("Year of study:%d\n",s[i].year);
    printf("CGPA:%.1f\n",s[i].gpa);
}

return 0;
}
```


The screenshot shows a web browser window with the URL <https://care.srmist.edu.in/srmkretelab/#/srmkretelab/student/home>. The page displays a problem description for a C programming challenge. The problem involves a stadium (circle) and a ball's position. The user is asked to determine if the ball landed inside or outside the stadium based on the given coordinates and radius.

Problem Description:

Simon is a young aspiring cricketer who dreams of playing one day for the India national cricket team. He is an diehard fan of Sachin and a game developer.

He is currently designing a game that will include Modera Stadium, the largest stadium known to all. In this case the ball hit by the Simon must determine the weather inside or outside the field.

Can you help him figure it out?

Assumption: Modera Stadium is of shape Circle according to the Game designed by Simon.

Constraints:

- $1 \leq x1 \leq 100$
- $1 \leq y1 \leq 100$
- $1 \leq x2 \leq 100$
- $1 \leq y2 \leq 100$
- $1 \leq radius \leq 100$

Input Format:

First Line : Two Coordinates $x1$ and $y1$ representing the center of the Modera Stadium which is assumed as $[0,0]$

Second Line: Single Integer representing the radius of the stadium.

Third Line : Two Coordinates $x2$ and $y2$ representing the position in the ground where the ball hit by Simon landed.

Output Format:

In the only line of output print the Output as "BALL LANDED INSIDE" if coordinate is inside the stadium and Print the Output as "BALL IS OUT OF THE STADIUM" if coordinate is outside the stadium.

Logical Test Cases

```
#include <stdio.h>

#include <math.h>

struct circleshape{

    int x1,x2;

    int y1,y2;

    int r;

};

int main()

{

    struct circleshape dis;

    scanf("%d %d %d %d %d",&dis.x1,&dis.y1,&dis.r,&dis.x2,&dis.y2);

    dis.x1=sqrt(pow(dis.x2-dis.x1,2));dis.x2=sqrt(pow(dis.y2-dis.y1,2));

    if(dis.r<(dis.x1+dis.x2))

        printf("BALL IS OUT OF THE STADIUM");

    else

        printf("BALL LANDED INSIDE THE STADIUM");

    return 0;

}
```

Course: C Session: Structures and Unions Question Information: Level 1 Challenge 59

Problem

Problem Description:

The king is left alone on the chessboard. In spite of this loneliness, he doesn't lose heart, because he has a business of national importance. For example, he has to pay an official visit to square t.

As the king is not in habit of wasting his time, he wants to get from his current position s to square t in the least number of moves. Help him to do this.

In one move the king can get to the square that has a common side or a common vertex with the square the king is currently in (generally there are 8 different squares he can move to).

Constraints:

a ≤ s ≤ h
1 ≤ t ≤ 8

Input Formats:

The first line contains the chessboard coordinates of square s, the second line — of square t.

Chessboard coordinates consist of two characters, the first one is a lowercase Latin letter (from a to h), the second one is a digit from 1 to 8.

Output Formats:

In the first line print n — a minimum number of the king's moves.

Then in n lines print the moves themselves. Each move is described with one of the 8: L, R, U, D, LU, LD, RU, or RD.

L, R, U, D stand respectively for moves left, right, up, and down, and 2-letter combinations stand for diagonal moves.

If the answer is not unique, print any of them.

Refer to Sample input and output.

Logical Test Cases

```
#include <math.h>
```

```
#include <stdlib.h>
```

```
#include <stdio.h>
```

```
struct king
```

```
{
```

```
    char s1[5],s2[5];
```

```
};
```

```
int main()
```

```
{
```

```
    struct king path;
```

```
    scanf("%s%s",path.s1,path.s2);
```

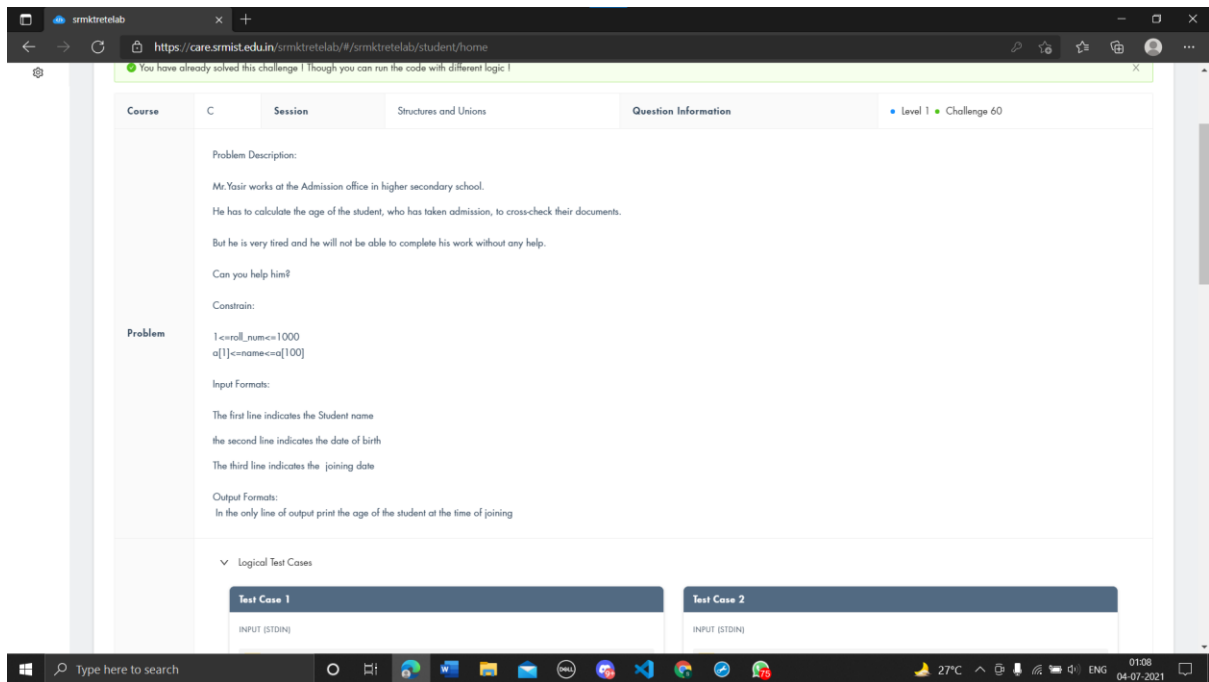
```
    int x=path.s2[0]-path.s1[0];
```

```
    int y=path.s2[1]-path.s1[1];
```

```
    abs(x>y)?printf("%d\n",abs(x)):printf("%d\n",abs(y));
```

```
    while(x| |y)
```

```
{  
    if(x>0)  
        { x--;printf("R");}  
    if(x<0)  
        { x++;printf("L");}  
    if(y>0)  
        {y--;printf("U");}  
    if(y<0)  
        {y++;printf("D");}  
    printf("\n");  
}  
return 0;  
}
```



```
#include <stdio.h>

struct Admission
{ char name[100];
  int d1,m1,y1,d2,m2,y2,roll;
};

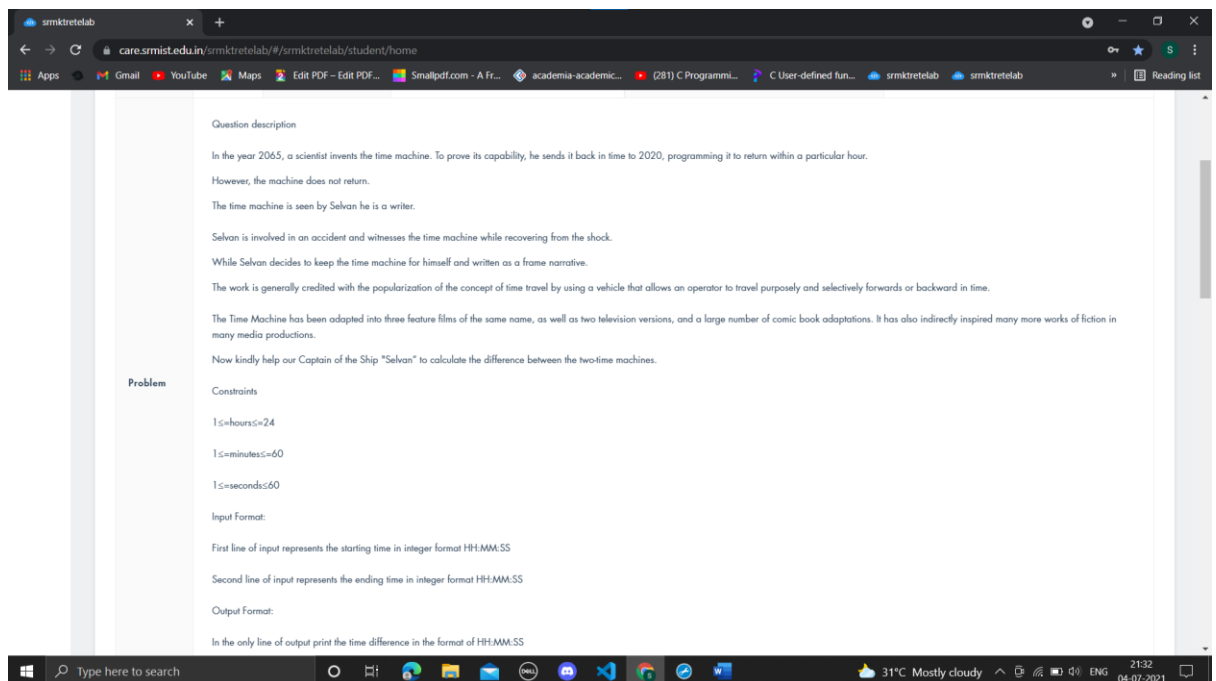
int main()
{ struct Admission t;
  int y;

  scanf("%d \n%s\n %d-%d-%d\n%d-%d-%d",&t.roll,t.name,&t.d1,&t.m1,&t.y1,&t.d2,&t.m2,&t.y2);

  y=t.y2-t.y1;

  printf("Age at Time of Admission %d Years",y);

  return 0;
}
```



```
#include <stdio.h>

struct Time
{
    int h1,m1,s1,h2,m2,s2;
};

int main()
{
    scanf("%d %d %d\n",&x.h1,&x.m1,&x.s1);
    scanf("%d %d %d\n",&x.h2,&x.m2,&x.s2);
    printf("%d:",x.h1-x.h2);
    printf("%d:",x.m1-x.m2);
    printf("%d",x.s1-x.s2);

    return 0;
}
```

The screenshot shows a web browser window with the URL `care.srmist.edu.in/srmktretelab/#/srmktretelab/student/home`. The page displays a coding problem titled "Problem". The question description states: "Irfan is going to finish his final year master of computer application, he is in the final year of the course MCA. Every student has to participate in a department coding test to face on-campus interview activities. So Irfan plans to start a practice of a code with a simple calculation of identifying +ve and -ve numbers. Can you help Irfan by developing the application for finding the nature of the number?". The constraints are $0 \leq \text{num} \leq 100000$. The input format is "Only line of input has a single value representing the number for which he need to find the nature." The output format is "If the number you give is more than 0 print as 'Positive' else print as 'Negative'". Below the problem description, there are two test cases. Test Case 1 shows an input of 5178 and an expected output of Positive. Test Case 2 shows an input of -234 and an expected output of Negative.

```
#include <stdio.h>

union Calculator
{
    int a;
};

int main()
{
    union Calculator c1;
    scanf("%d",&c1.a);
    if(c1.a>=0)
        printf("Positive");
    else
        printf("Negative");
    return 0;
}
```

Problem Description:

Jocelyn's skill is to write stories of letters. But she finds it very boring to write the story, and after three hours of work, Jocelyn realizes that what she wrote is full of A and B letters, and decides that the story will not end on time. So having a little fun with it, at least counting the bubbly words.

Now Jocelyn connects the same pair of letters (A with A, B, and B) by drawing lines on the word. A given word bubble, if it is possible to combine each letter exactly with another letter so that it does not exceed two letters. Help Jocelyn figure out how many words bubbly.

Constraints:

$1 \leq M \leq 100$

Input Formats:

The first line of input contains the positive integer M, the number of words written down by Jocelyn.

Each of the following M lines contains a single word consisting of letters A and B, with length between 2 and 10^5 , inclusive. The sum of lengths of all words doesn't exceed 10^6 .

Output Formats:

The first and only line of output must contain the number of bubbly words.

Example:

Sample Input:

```
3
ABAB
AABB
ABBA
```

SAMPLE OUTPUT

```
2
```

```
#include <stdio.h>

#include<string.h>

struct letters
{
    char ch[20];
};

int main()
{ struct letters story;

    int t,count=0;

    scanf("%d",&t);

    while(t!=0)
    { scanf("%s",story.ch);

        int i;

        for(i=0;i<strlen(story.ch);i++)

            { if(story.ch[i]==story.ch[i+1])

                { count++;

                    break;

                }

            }

        t--;

    }

    printf("%d",count);

    return 0;

}
```

Problem Description:

Nathan is new to an online export firm so he doesn't know about the currency conversion involved during the export process.

Since Nathan is going to export books to Singapore, so he likes to know about Indian rupee to [Singapore Dollar] SGD conversion.

Can you help him by creating a code snippet with the help of UNION to do the currency conversion for Nathan?

Functional Description:

1 SGD = 55.26 INR

Constraints:

$1 \leq T \leq 10$
 $1.00 \leq \text{INR} \leq 1000.00$

Input Format:

First line has as single value of type integer representing T the number of testcases.

Next T lines has single value of type float representing the price of book in Indian currency.

Output format:

For each testcase print the SGD value equivalent to Indian currency.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN)	INPUT (STDIN)
2	4
399.99	657.98
190.50	987.66
	399.99
	190.50

```
#include <stdio.h>

union price{
    float inr;
};

union price book;

int main()
{int t;
scanf("%d",&t);
while(t--){
    scanf("%f",&book.inr);
    printf("%.2f\n",book.inr*55.26);
}
    return 0;
}
```


The screenshot shows a web browser window with the URL `care.srmist.edu.in/srmktretelab/#/srmktretelab/student/home`. The page displays a problem description for a C programming task. The problem involves updating employee age and height data. It includes constraints, input/output formats, and sample test cases.

Problem Description:
Mr. Mannu was working in Renault Nissan. His company has the ERP in which all the employees need to update their age and height. On seeing the tool Mannu also had the idea of developing the tool with similar logic. Can you help him?

Can you help him doing so?

Constraints:
1 <= age <= 100
1 <= height <= 250

Input Format:
The first line of the input has a single value of type integer representing employee age
The second line of the input has a single value of type float representing employee height

Output Format:
Print the age and height in the expected format.
Refer sample testcases for format specification.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN) 32 143.2	INPUT (STDIN) 40 133.7
EXPECTED OUTPUT Age=32 years Height=143.20 cm	EXPECTED OUTPUT Age=40 years Height=133.70 cm

```
#include <stdio.h>
```

```
union number
```

```
{
```

```
    int n1;
```

```
    float n2;
```

```
};
```

```
int main()
```

```
{
```

```
    union number x;
```

```
    scanf("%d",&x.n1);
```

```
    printf("Age=%d years\n",x.n1);
```

```
    scanf("%f",&x.n2);
```

```
    printf("Height=%0.2f cm",x.n2);
```

```
    return 0;
```

```
}
```

Problem Description:

Faiza is an Associate Software Developer at an international software company. She usually likes to do online shopping and mostly she chooses the EMI option for the goods she purchases. But that itself became a headache for her. Since she has purchased a lot of products in the last month but didn't kept track of the EMI amount to be paid. So can you help her knowing the monthly EMI amount he needs to pay?

Functional Description:

The formula for Calculating the total EMI to be paid is as follows:

One Month interest = $\text{rate} \times \text{rate} / (12 \times 100)$

One Month Period = $\text{time} \times 12$

$\text{totalemi} = (\text{principle_amount} \times \text{rate} \times \text{pow}(1 + \text{rate}, \text{time})) / (\text{pow}(1 + \text{rate}, \text{time}) - 1)$

Constraint:

$1.0 \leq \text{principal} \leq 1000$

$1.0 \leq \text{rate} \leq 1000$

$1.0 \leq \text{time} \leq 1000$

Input Formats:

First-line indicates Principle_amount,
Second-line indicates the rate of interest,
The third line indicates the number of months or time

```
#include <stdio.h>

#include<math.h>

struct EMI
{
    float principal_amount,rate,time;
};

int main()
{ struct EMI n;
  float pay;
  scanf("%f %f %f",&n.principal_amount,&n.rate,&n.time);
  n.rate=n.rate/1200;
  n.time=n.time*12;
  pay=(n.principal_amount*n.rate*pow((1+n.rate),n.time))/(pow((1+n.rate),n.time)-1);
  printf("%0.2f",pay);

  return 0;
}
```

The screenshot shows a web browser window with the URL `care.srmist.edu.in/srmktretelab/#/srmktretelab/student/home`. The page displays a programming problem titled "Problem".

Problem Description:
Mr. Naren Karthikayan is a famous F1 driver in Tamil Nadu. He is participating in the world champion competition. He has increase speed in the car, also displays the arrow in the speedometer. After some time he is watching the speedometer through the mirror, the speed in the reverse order, he decided to practice the number in reverse order. So he decided to make a program for practicing the speed in the reverse order. Can you help him to make a program to display the reverse of the speed?

Constraints:
 $1 \leq n \leq 1000$

Input Format:
Only line of input has a single integer representing n .

Output Format:
In the only line of output print the speed in reverse order.

Logical Test Cases:

Test Case 1	Test Case 2
INPUT (STDIN) 124	INPUT (STDIN) 432
EXPECTED OUTPUT 421	EXPECTED OUTPUT 234

The browser's taskbar at the bottom shows the Windows search bar, several application icons, and system information: 30°C, AQI 82, 21:37, 04-07-2021.

```
#include <stdio.h>
```

```
union reverse
```

```
{
```

```
    int n;
```

```
};
```

```
int main()
```

```
{ union reverse R;
```

```
    int r,num=0;
```

```
    scanf("%d",&R.n);
```

```
    while(R.n)
```

```
    { r=R.n%10;
```

```
      num=num*10+r;
```

```
      R.n/=10;
```

```
    }
```

```
    printf("%d",num);
```

```
    return 0;
```

```
}
```

Problem Description:
Mr James planned to go Godzilla vs Kong movie in iMax with his wife.
There was as competition going on in the theatre complex for couples.
If a particular couple solves the task given to them then they will get the tickets for the movie free of cost.
The task is nothing but to find the sum of digits of the number provided to them.
Can you help James and his wife with the task so that they will get the free tickets?

Constraints:
 $1 \leq n \leq 1000000$

Input Format:
Only line of input has single integer representing n.

Output Format:
In the only line of output print the sum of digits of the number.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN) 567	INPUT (STDIN) 987
EXPECTED OUTPUT 18	EXPECTED OUTPUT 24

Mandatory Test Cases

```
#include <stdio.h>
```

```
int sum(int num)
```

```
{
```

```
    if(num!=0)
```

```
    {
```

```
        return (num%10+sum(num/10));
```

```
    }
```

```
}
```

```
else
```

```
    return 0;
```

```
}
```

```
union Data
```

```
{
```

```
    int num,res;
```

```
}data;
```

```
int main()
```

```
{
```

```
    scanf("%d",&data.num);
```

```
    data.res=sum(data.num);
```

```
    printf("%d",data.res);
```

```
        return 0;
```

```
}
```

The screenshot shows a web browser window with the URL `care.srmist.edu.in/srmkretelab/#/srmkretelab/student/home`. The page displays a problem description for a voting eligibility application. The problem description includes a scenario, functional requirements, constraints, and input/output formats. Below the problem description, there are two test cases, Test Case 1 and Test Case 2, each showing an input value and an expected output.

Problem

Problem Description:
A small country leader decided to bring some reforms after 25 years of his rule.
So as to engage the educated and unemployed youth of that country in this matter.
He Ordered young people to create an application to assess citizen's eligibility for voting.
You too can contribute in this initiative.
Can you help them with the application they wanted?

Functional Description:
If the age is below 18 and above 60 then the citizen of the country is "Not Eligible" for voting
If the age is greater than 18 less than or equal to 60 the citizen of the country is "Eligible" for voting.

Constraints:
1 <= age <= 150

Input Format:
The input contains the integer that indicates the age of people.

Output Format:
Print the appropriate output based on the condition.

Logical Test Cases

Test Case 1	Test Case 2
INPUT (STDIN) 30	INPUT (STDIN) 10
EXPECTED OUTPUT Eligible	EXPECTED OUTPUT Not Eligible

```
#include <stdio.h>
```

```
union Citizen
```

```
{
```

```
    int age;
```

```
};
```

```
int main()
```

```
{ union Citizen E;
```

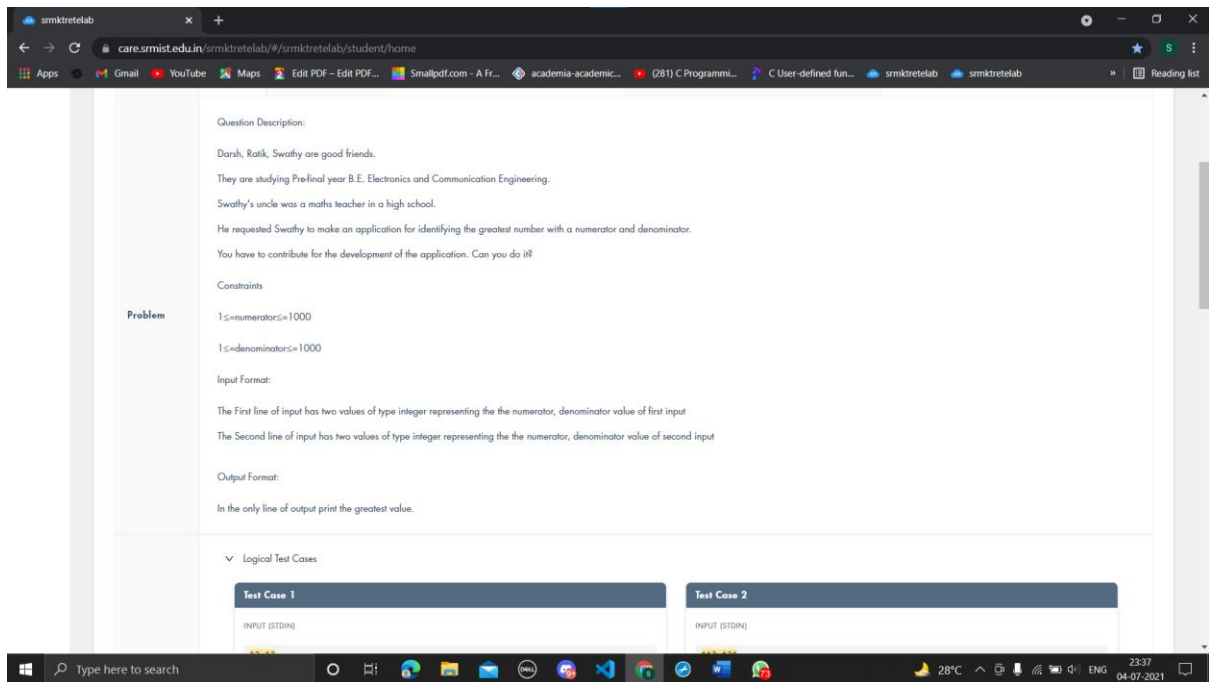
```
scanf("%d", &E.age);
```

```
if((E.age > 18) && (E.age <= 100)) printf("Eligible");
```

```
else printf("Not Eligible");
```

```
    return 0;
```

```
}
```



```
#include <stdio.h>

struct fraction{
    int A,B,C,D;
};

int main()
{
    struct fraction number;
    scanf("%d %d %d %d",&number.A,&number.B,&number.C,&number.D);
    if((number.A/number.B)>(number.C/number.D))
        printf("%d/%d is greater than %d/%d",number.A,number.B,number.C,number.D);
    // else if((number.A/number.B)<(number.C/number.D))
    else
        printf("%d/%d is smaller than %d/%d",number.A,number.B,number.C,number.D);
    return 0;
}
```

