240701075

RAJALAKSHMI ENGINEERING COLLEGE

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Rajalakshmi Nagar, Thandalam – 602 105

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

GE23131 - PROGRAMMING USING C

(*Regulation 2023*)

LABORATORY MANUAL

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Semester	:	**I**
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Operators and Expressions, Managing Input and Output Operations

Ex. No.: 7 **Date: 09.10.2024**

Height Units

Problem Statement:

Many people think about their height in feet and inches, even in some countries that primarily use the metric system. Write a program that reads a number of feet from the user, followed by a number of inches. Once these values are read, your program should compute and display the equivalent number of centimeters.
Hint: One foot is 12 inches. One inch is 2.54 centimeters.

Input Format
First line, read the number of feet.
Second line, read the number of inches.
Output Format
In one line print the height in centimeters.
Note: All of the values should be displayed using two decimal places.

Sample Input 1
5
6

Sample Output 1
167.64

Program:

Answer: (penalty regime: 0 %)

```
#include<stdio.h>
int main()
{
    float a,c,d,e;
    float b;
    scanf("%f %f",&a,&b);
    c=a*12*2.54;
    d=b*2.54;
    e=c+d;
    printf("%.2f",e);
    return 0;
}
```

	Input	Expected	Got	
✓	5 6	167.64	167.64	✓

Passed all tests! ✓

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Ex. No.: 8 **Date: 09.10.2024**

Arithmetic

Problem Statement:

Create a program that reads two integers, a and b, from the user. Your program should compute and display:

- The sum of a and b
- The difference when b is subtracted from a
- The product of a and b
- The quotient when a is divided by b
- The remainder when a is divided by b

Input Format
First line, read the first number.
Second line, read the second number.

Output Format
First line, print the sum of a and b
Second line, print the difference when b is subtracted from a
Third line, print the product of a and b
Fourth line, print the quotient when a is divided by b
Fifth line, print the remainder when a is divided by b

Sample Input 1
100
6

Sample Output1
106
94
600
16
4

Program:

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int a,b;
    scanf("%d %d",&a,&b);
    printf("%d\n%d\n%d\n%d\n%d",a+b,a-b,a*b,a/b,a%b);
    return 0;
}
```

	Input	Expected	Got	
✓	100 6	106 94 600 16 4	106 94 600 16 4	✓

Passed all tests! ✓

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ex. No.: 9 **Date: 09.10.2024**

Day Old Bread

Problem Statement:

A bakery sells loaves of bread for $3.49 each. Day old bread is discounted by 60 percent. Write a program that begins by reading the number of loaves of day-old bread being purchased from the user. Then your program should display the regular price for the bread, the discount because it is a day old, and the total price. Each of these amounts should be displayed on its own line with an appropriate label. All of the values should be displayed using two decimal places.

Input Format
Read the number of day old loaves.

Output Format
First line, print Regular price: price Second line, print Discount: discount Third line, print Total: total

Note: All of the values should be displayed using two decimal places.

Sample Input 1
10

Sample Output 1
Regular price: 34.90 Discount: 20.94 Total: 13.96

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    float a,b,c,d;
    scanf("%f",&a);
    b=3.49*a;
    c=(b/100)*60;
    d=b-c;
    printf("Regular price: %.2f\n",b);
    printf("Discount: %.2f\n",c);
    printf("Total: %.2f",d);
    return 0;



}
```

	Input	Expected	Got	
✓	10	Regular price: 34.90 Discount: 20.94 Total: 13.96	Regular price: 34.90 Discount: 20.94 Total: 13.96	✓

Passed all tests! ✓

Ex. No. : 10 **Date : 09.10.2024**

Goki and his Breakup

Problem Statement:

Goki recently had a breakup, so he wants to have some more friends in his life. Goki has **N** people who he can be friends with, so he decides to choose among them according to their skills set **Yi**(1<=i<=n). He wants atleast **X** skills in his friends.
Help Goki find his friends.

Input Format
First line contains a single integer **X** - denoting the minimum skill required to be Goki's friend. Next line contains one integer **Y** - denoting the skill of the person.

Output Format
Print if he can be friend with Goki. '**YES' (without quotes)** if he can be friends with Goki else '**NO' (without quotes)**.

Constraints
1<=N<=1000000 1<=X,Y<=1000000

SAMPLE INPUT 1
100
110

SAMPLE OUTPUT 1
YES

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int X;
    int Y;
    scanf("%d",&X);
    scanf("%d",&Y);
    if(Y>=X)
    {
        printf("YES\n");
    }
    else
    {
        printf("NO\n");
    }
    return 0;
}
```

	Input	Expected	Got	
✓	100 110	YES	YES	✓
✓	100 90	NO	NO	✓

Passed all tests! ✓

Ex. No. : 11 **Date : 09.10.2024**

Say no to Handshakes!!!

Problem Statement:

Before the outbreak of corona virus to the world, a meeting happened in a room in Wuhan. A person who attended that meeting had COVID-19 and no one in the room knew about it! So, everyone started shaking hands with everyone else in the room as a gesture of respect and after meeting unfortunately everyone got infected! Given the fact that any two persons shake hand exactly once, can you tell the total count of handshakes happened in that meeting?

Say no to shakehands. Regularly wash your hands. Stay Safe.

Input Format
Read an integer N, the total number of people attended that meeting.

Output Format
Print the number of handshakes.

Constraints
0 < N < 106

SAMPLE INPUT 1
1

SAMPLE OUTPUT
0

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int n,m;
    scanf("%d",&n);
    if(0<n && n<100){
        m = n * (n-1)/2;
        printf("%d",m);

    }
    return 0;
}
```

Program:

	Input	Expected	Got	
✓	1	0	0	✓
✓	2	1	1	✓

Passed all tests! ✓

Ex. No. : 12 **Date : 09.10.2024**

Back to School

Problem Statement:

In our school days, all of us have enjoyed the Games period. Raghav loves to play cricket and is Captain of his team. He always wanted to win all cricket matches. But only one last Games period is left in school now. After that he will pass out from school.

So, this match is very important to him. He does not want to lose it. So he has done a lot of planning to make sure his teams wins. He is worried about only one opponent - Jatin, who is very good batsman.

Raghav has figured out 3 types of bowling techniques, that could be most beneficial for dismissing Jatin. He has given points to each of the 3 techniques.

You need to tell him which is the maximum point value, so that Raghav can select best technique.

3 numbers are given in input. Output the maximum of these numbers.

Input Format:
Three space separated integers.

Output Format:
Maximum integer value

SAMPLE INPUT
8 6 1

SAMPLE OUTPUT
8

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int a,b,c;
    scanf("%d %d %d",&a,&b,&c);
    if (a>b && a>c)
    {
        printf("%d",a);
    }
    else if (b>a && b>c)
    {
        printf("%d",b);
    }
    else if (c>a && c>b)
    {
        printf("%d",c);
    }
    return 0;
}
```

Program:

	Input	Expected	Got	
✓	81 26 15	81	81	✓

Passed all tests! ✓