Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:06:54 **Register Number:** RA2031241010094

Q. Leenas Classroom

Leena is studying 12th standard. She tries to do one unique program using operators. So she plan to write one c program to find smallest among four number using ternary operator

Source Code

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

Sample Input

1 2 3 4

Sample Output

1

Result

Thus, Program " **Leenas Classroom** " has been successfully executed

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Q. Too Complex..

Ramya is always confused with complex numbers. Her maths professor gave two complex numbers and ask her to add them. She needs your help. Can you favour Ramya to complete this work?

Source Code

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

Sample Input

```
3
4
6
7
```

Sample Output

```
9+11i
```

Result

Thus, Program " **Too Complex..** " has been successfully executed

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Q. Finding OR of two numbers

Write a program to find the bitwise OR of two decimal numbers.
An OR gate reads 2 input either 0 or 1 and outputs 0 iff both the inputs are 0 else 1. Similarly write a program to read two decimal numbers and finds OR of two numbers .
EXAMPLE :
(3) 10 = (011) 2
(5) 10 = (101) 2
OR of 3 and 4 is :
(7) 10 = (111) 2

Source Code

```
#include <stdio.h>
int main()
{
  int a,b;
  scanf("%d %d",&a,&b);
  printf("Bitwise OR of %d and %d is=%d",a,b,a|b);
  return 0;
}
```

Sample Input

```
12
23
```

Sample Output

```
Bitwise OR of 12 and 23 is=31
```

Result

Thus, Program " **Finding OR of two numbers** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:08:21 **Register Number:** RA2031241010094

Q. Pogo Stick Jump

Raju lives in a colony. On his 9th birthday, his father gift him a Pogo Stick. He is so excited to play with pogo stick. The pogo stick moves one unit per jump. He wanders around his house jumping with pogo sticks. He wants to show the pogo stick to his friends and decide to go using pogo sticks. Write a program to find number of jumps needed to reach his friends house. Assume that Rajus house is in the location (3,4).

Input and Output Format:
Input consists of two integers x, y. The x and y corresponds to x and y coordinates of his friends house.
Output is an integer - the number of jumps he needs to reach his friends house.

Source Code

```
#include <stdio.h>
int main()
{
  int x,y,i,j;
  scanf("%d %d",&x,&y);
  i=x-3;
  j=y-4;
  printf("Raju needs %d jumps",j);
 return 0;
}
```

Sample Input

5 6

Sample Output

Raju needs 2 jumps

Result

Thus, Program " **Pogo Stick Jump** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:09:14 **Register Number:** RA2031241010094

Q. Quotient Remainder

Write a C program to find the quotient and remainder for the given dividend and divisor.

Source Code

```
#include <stdio.h>
int main()
{
  int n,m,q,r;
  scanf("%d\n%d",&n,&m);
  q=n/m;
  r=n%m;
  printf("%d\n",q);
  printf("%d",r);
 return 0;
}
```

Sample Input

```
25
4
```

Sample Output

```
6
1
```

Result

Thus, Program " **Quotient Remainder** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:09:39 **Register Number:** RA2031241010094

Q. Sum of palindromic numbers

A number is called palindromic if its decimal representation is a palindrome. You are given a range, described by a pair of integers L and R. Find the sum of all palindromic numbers lying in the range [L, R], inclusive of both the extrema.

Input
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 a pair of space separated integers L and R denoting the range for which you are required to find the sum of the palindromic numbers.

Output
For each test case, output a single line containing the sum of all the palindromic numbers in the given range.

Constraints
1<=T<=100
Subtask 1 (34 points) : 1<=L<=R<=103
Subtask 2 (66 points) : 1<=L<=R<=105
Explanation
Example case 1. The palindromic numbers between 1 and 10 are all numbers except the number 10. Their sum is 45.

Source Code

```
#include <stdio.h>
int ispal(int n)
{
  int m=n,res=0;
        while(m)
        {
          res=res*10+m%10;
          m=m/10;
        }
  return res==n;
}
int main()
{
  int t;
  scanf("%d",&t);
  while(t--)
        {
          int i,min,max,res=0;
          scanf("%d  %d",&min,&max);
          for(i=min;i<=max;i++)
          {
            if(ispal(i))
            {
              res=res+i;
            }
          }
          printf("sum is %d\n",res);
        }
  return 0;
}
```

Sample Input

```
2
1 10
123 150
```

Sample Output

```
sum is 45
sum is 272
```

Result

Thus, Program " **Sum of palindromic numbers** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:10:09 **Register Number:** RA2031241010094

Q. CASE OF THE ZEROS AND ONES

Andrewid the Android is a galaxy-famous detective. In his free time he likes to think about strings containing zeros and ones.
Once he thought about a string of length n consisting of zeroes and ones. Consider the following operation: we choose any two adjacent positions in the string, and if one them contains 0, and the other contains 1, then we are allowed to remove these two digits from the string, obtaining a string of length n-2 as a result.
Now Andreid thinks about what is the minimum length of the string that can remain after applying the described operation several times (possibly, zero)? Help him to calculate this number.

Input
First line of the input contains a single integer n (1<=n<=2(10 Power of 5)), the length of the string that Andreid has.
The second line contains the string of length n consisting only from zeros and ones.

Output
Output the minimum length of the string that may remain after applying the described operations several times.

Source Code

```
#include <stdio.h>
int main()
{
  int i,n,a=0,b=0;
  char c[200000];
  scanf("%d",&n);
  scanf("%s",c);
  for(i=0;i<n;i++)
  {
    if(c[i]=='1')
      a++;
    else
      b++;
  }
  if(a>b)
 printf("%d",a-b);
  else
    printf("%d",b-a);
 return 0;
}
```

Sample Input

```
8
11101111
```

Sample Output

```
6
```

Result

Thus, Program " **CASE OF THE ZEROS AND ONES** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:10:50 **Register Number:** RA2031241010094

Q. PROFIT CALCULATOR

Each Sunday, a newspaper agency sells x copies of a certain newspaper for Rs.a per copy. The cost to the agency of each newspaper is Rs.b . The agency pays a fixed cost for storage, delivery and so on of Rs.100 per Sunday. The newspaper agency wants to calculate the profit obtained on Sundays. Can you please help them out by writing a C program to compute the profit given x, a and b.

Input Format:
Input consists of 3 integers --- x, a and b. X is the number of copies sold, a is the cost per copy and b is the cost the agency spends per copy.

Source Code

```
#include <stdio.h>
int main()
{
  int x,a,b,s=0;
  scanf("%d\n%d\n%d",&x,&a,&b);
  s=x*a-x*b-100;
  printf("profit=%d",s);
 return 0;
}
```

Sample Input

```
1000
2
1
```

Sample Output

```
profit=900
```

Result

Thus, Program " **PROFIT CALCULATOR** " has been successfully executed

Course: C **Session:** Operators **Timestamp:** 2021-1-9 18:11:15 **Register Number:** RA2031241010094

Q. Number Generation

can you help to Manju to identify the result for the following problem? Manjus maths teacher first give the limit.Manju have to generate numbers between the limit which are divisible by 2. At the same time the numbers should not be divisible by 3 and 5

Source Code

```
#include <stdio.h>
int main()
{
  int n,a,b;
  scanf("%d",&a);
  scanf("%d",&b);
  for(n=a;n<b;n++)
  {
    if(n%2==0&&n%3!=0&&n%5!=0)
 printf("%d\n",n);
  }
 return 0;
}
```

Sample Input

```
1
10
```

Sample Output

```
2
4
8
```

Result

Thus, Program " **Number Generation** " has been successfully executed