Week:05-01
Roll no:241501089
Name-Kishore S A

Q1)Problem Statement:

Write a program that prints a simple chessboard.

Input format:

The first line contains the number of inputs T.
The lines after that contain a different value for size of the chessboard.

Output format:

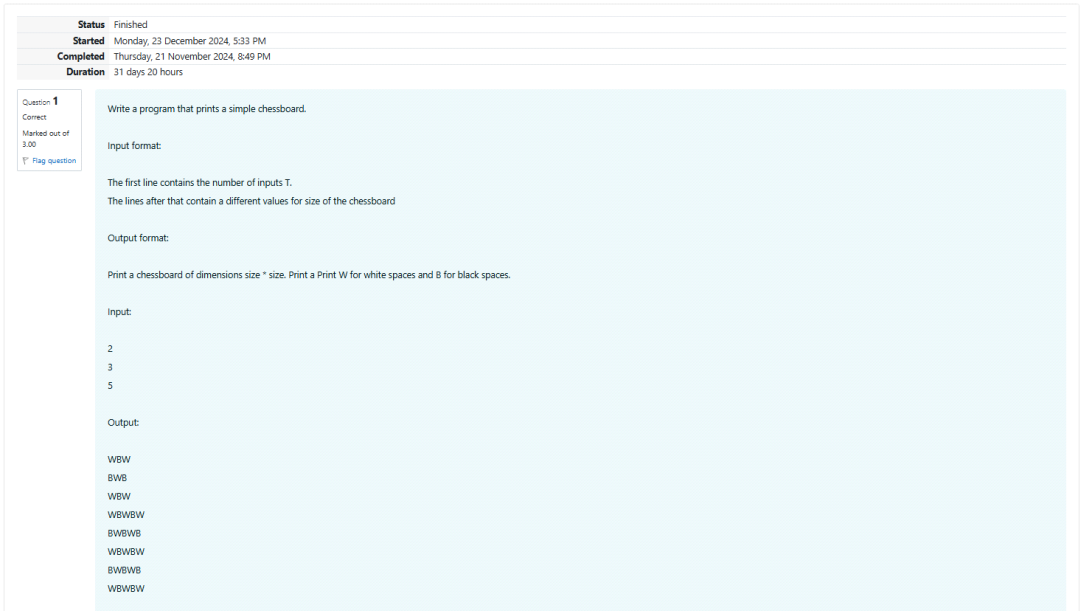
Print a chessboard of dimensions size * size.
Print W for white spaces and B for black spaces.

Sample Input:

2
3
5

Sample Output:

WBW
BWB
WBW
WBWBW
BWBWB
WBWBW
BWBWB
WBWBW



Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Thursday, 21 November 2024, 8:49 PM
Duration	31 days 20 hours

Question **1**
Correct
Marked out of 3.00
Flag question

Write a program that prints a simple chessboard.

Input format:

The first line contains the number of inputs T.
The lines after that contain a different values for size of the chessboard

Output format:

Print a chessboard of dimensions size * size. Print a Print W for white spaces and B for black spaces.

Input:

2
3
5

Output:

WBW
BWB
WBW
WBWBW
BWBWB
WBWBW
BWBWB
WBWBW

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int T,d,i=0,i1,i2,o;
    char c;
    scanf("%d",&T);
    while(i<T)
    {
        scanf("%d",&d);
        i1=0;
        while(i1<d)
        {
            o=1;
            i2=0;
            if(i1%2==0)
            {
                o=0;

            }
            while(i2<d)
            {
                c='B';
                if(i2%2==o)
                {
                    c='W';
                }
                printf("%c",c);
                i2++;
            }
            i1+=1;
            printf("\n");
        }
        i=i+1;



    }
}
```

Output:

	Input	Expected	Got	
✓	2	WBW	WBW	✓
	3	BWB	BWB	
	5	WBW	WBW	
		WBWBW	WBWBW	
		BWBWB	BWBWB	
		WBWBW	WBWBW	
		BWBWB	BWBWB	
		WBWBW	WBWBW	

Passed all tests! ✓

Q2)Problem Statement:

Let's print a chessboard!
Write a program that takes input:
The first line contains T, the number of test cases.
Each test case contains an integer N and also the starting character of the chessboard.

Output Format:

Print the chessboard as per the given examples.

Sample Input:

2
2 W
3 B

Sample Output:

WB
BW
BWB
WBW
BWB

Question **2**
Correct
Marked out of 5.00
Flag question

Let's print a chessboard!

Write a program that takes input:

The first line contains T, the number of test cases
Each test case contains an integer N and also the starting character of the chessboard

Output Format

Print the chessboard as per the given examples

Sample Input / Output

Input:

2
2 W
3 B

Output:

WB
BW
BWB
WBW
BWB

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int T,d,i,i1,i2,o,z;
    char c,s;
    scanf("%d",&T);
    for(i=0;i<T;i++)
    {
        scanf("%d %c",&d,&s);
        for(i1=0;i1<d;i1++)
        {
            z=(s=='W')?0:1;
            o=(i1%2==z)?0:1;
            for(i2=0;i2<d;i2++)
            {
                c=(i2%2==o)?'W':'B';
                printf("%c",c);
            }
            printf("\n");
        }
    }
    return 0;
}
```

output:

	Input	Expected	Got	
✓	2 2 W 3 B	WB BW BWB WBW BWB	WB BW BWB WBW BWB	✓

Passed all tests! ✓

Q3)Problem Statement:

Decode the logic and print the pattern that corresponds to the given input.
If \(N = 3 \), then the pattern will be:
10203010011012
**4050809
***607
If \(N = 4 \), then the pattern will be:
1020304017018019020
**50607014015016
***809012013
****10011
Constraints: (2 <= N<= 100)

Input Format:

First line contains \(T \), the number of test cases. Each test case contains a single integer \(N \).

Output Format:

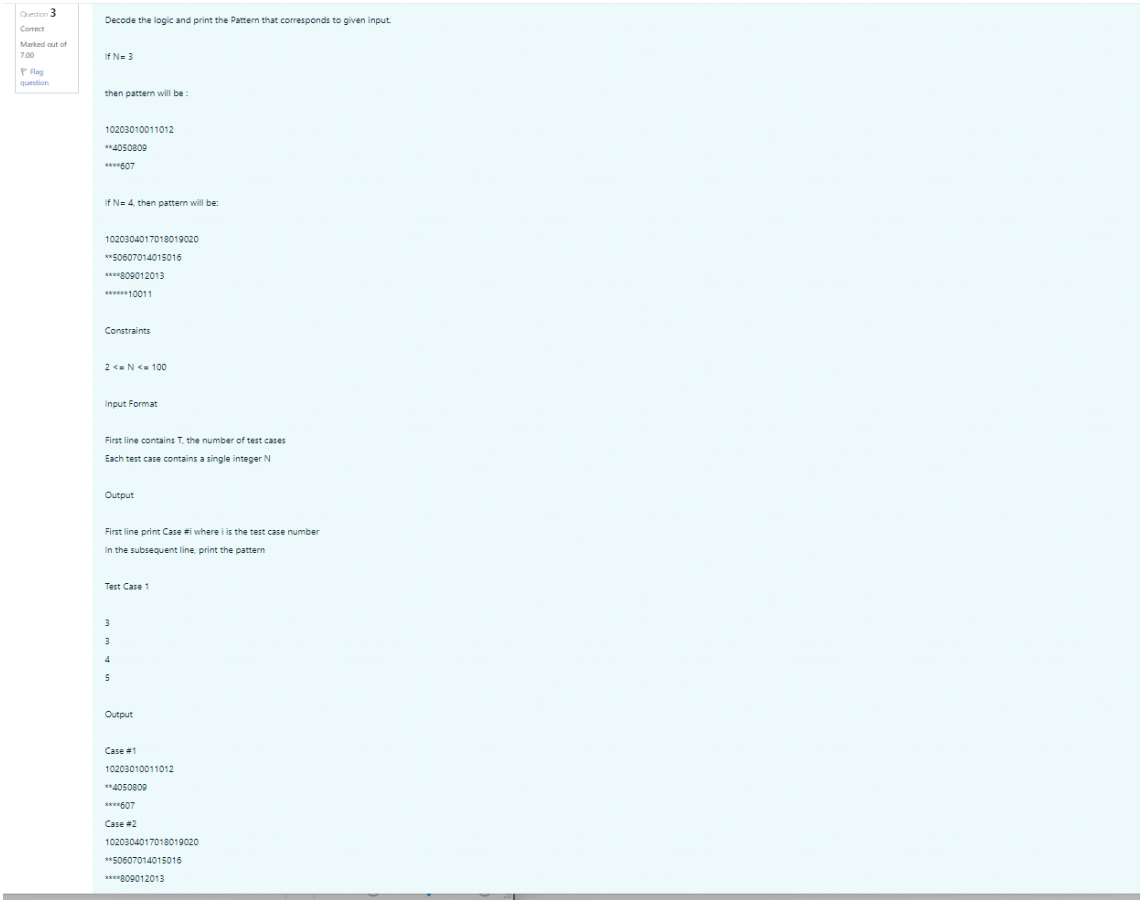
First line print Case #i where \(i \) is the test case number. In the subsequent line, print the pattern.

Sample Input:

3
3
4
5

Sample Output:

Case #1
10203010011012
**4050809
***607
Case #2
1020304017018019020
**50607014015016
***809012013
****10011
Case #3
10203040502060270280290 30
**6070809022030204025
***10011012019020021
****13014017018
*****15016



Question 3
Correct
Marked out of 7.00
Flag question

Decode the logic and print the Pattern that corresponds to given input.

If N= 3

then pattern will be :

10203010011012
**4050809
****607

If N= 4, then pattern will be:

1020304017018019020
**5060701401 5016
****809012013
******10011

Constraints

2 <= N <= 100

Input Format

First line contains T, the number of test cases
Each test case contains a single integer N

Output

First line print Case #i where i is the test case number
In the subsequent line, print the pattern

Test Case 1

3
3
4
5

Output

Case #1
10203010011012
**4050809
****607
Case #2
1020304017018019020
**5060701401 5016
****809012013

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int n,v,p3,c,in,i,i1,i2,t,ti;
    scanf("%d",&t);
    for(ti=0;ti<t;ti++)
    {
        v=0;
        scanf("%d",&n);
        printf("Case #%d\n",ti+1);
        for(i=0;i<n;i++)
        {
            c=0;
            if(i>0)
            {
                for(i1=0;i1<i;i1++)
                printf("**");
            }
            for(i1=i;i1<n;i1++)
            {
                if(i>0)
                c++;
                printf("%d0",++v);

            }
            if(i==0)
            {
                p3=v+(v*(v-1))+1;
                in=p3;
            }
            in=in-c;
            p3=in;
            for(i2=i;i2<n;i2++)
            {
                printf("%d",p3++);
                if(i2!=n-1)
                {
                    printf("0");
                }
            }
            printf("\n");
        }
    }
}
```

Output:

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 10203040170180190 20 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **607080902202302402 5 ****100110120190200 21 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 10203040170180190 20 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **607080902202302402 5 ****100110120190200 21 ******13014017018 ********15016	✓

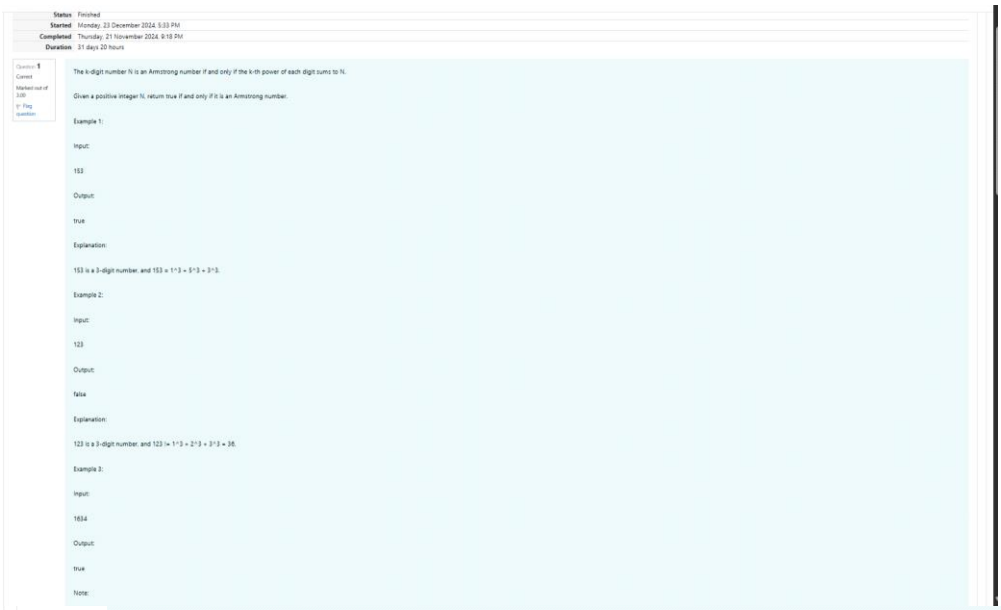
Passed all tests! ✓

week:05-02
Roll No:241501089
Name:Kishore S A

Q1)Problem Statement:

The k-digit number N is an Armstrong number if and only if the k-th power of each digit sums to N.
Given a positive integer N, return true if and only if it is an Armstrong number.
Note: 1 <= N <= 10^8
Hint:153 is a 3-digit number, and 153 = 1^3 + 5^3 + 3^3.

Sample Input:
153
Sample Output:
true
Sample Input:
123
Sample Output:
false
Sample Input:
1634
Sample Output:
true



Status Finished
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Duration 31 days 20 hours

Question 1
Correct
Marked out of 3.00
Flag question

The k-digit number N is an Armstrong number if and only if the k-th power of each digit sums to N.

Given a positive integer N, return true if and only if it is an Armstrong number.

Example 1:

Input:

153

Output:

true

Explanation:

153 is a 3-digit number, and 153 = 1^3 + 5^3 + 3^3.

Example 2:

Input:

123

Output:

false

Explanation:

123 is a 3-digit number, and 123 != 1^3 + 2^3 + 3^3 = 36.

Example 3:

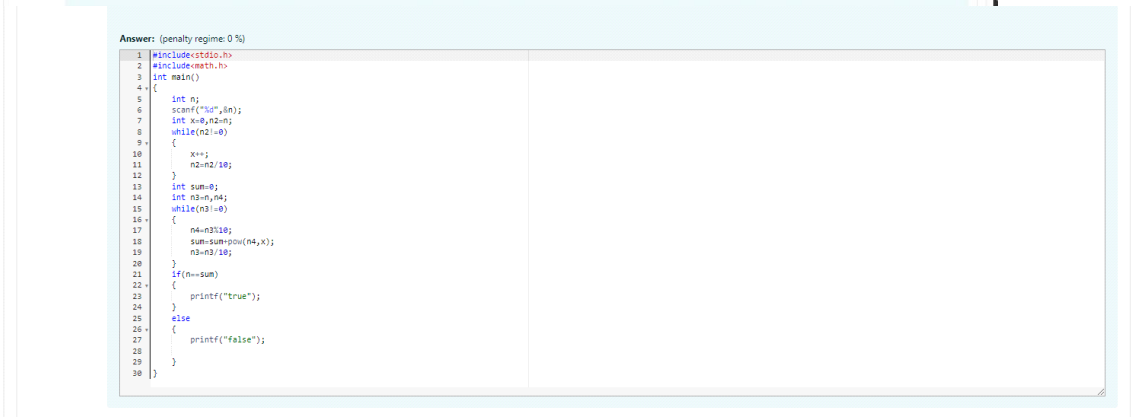
Input:

1634

Output:

true

Note:



Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
#include<math.h>
int main()
{
    int n;
    scanf("%d",&n);
    int x=0,n2=n;
    while(n2!=0)
    {
        x++;
        n2=n2/10;
    }
    int sum=0;
    int n3=n,n4;
    while(n3!=0)
    {
        n4=n3%10;
        sum=sum+pow(n4,x);
        n3=n3/10;
    }
    if(n==sum)
    {
        printf("true");
    }
    else
    {
        printf("false");

    }
}
```

Output:

	Input	Expected	Got	
✓	153	true	true	✓
✓	123	false	false	✓

Passed all tests! ✓

Q2)Problem statement:

Take a number, reverse it and add it to the original number until the obtained number is a palindrome.
Constraints: (1<=num<=999999999)

Sample Input 1:

32

Sample Output 1:

55

Sample Input 2:

789

Sample Output 2:

66866

Question 2
Correct
Marked out of 5.00
Flag question

Take a number, reverse it and add it to the original number until the obtained number is a palindrome. Constraints 1<=num<=99999999 Sample Input 1 32 Sample Output 1 55 Sample Input 2 789 Sample Output 2 66066

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int rn,n,nt=0,i=0;
    scanf("%d",&n);
    do
    {
        nt=n;rn=0;
        while(n!=0)
        {
            rn=rn*10 + n%10;
            n=n/10;

        }
        n=nt+rn;
        i++;

    }
    while(rn!=nt||i==1);
    printf("%d",rn);
    return 0;

}
```

	Input	Expected	Got	
✓	32	55	55	✓
✓	789	66866	66866	✓

Passed all tests! ✓

Q3)problem statement:

A number is considered lucky if it contains either 3 or 4 or both in it. Write a program to print the nth lucky number. For example, the 1st lucky number is 3, the 2nd lucky number is 4, the 3rd lucky number is 33, the 4th lucky number is 34, and so on. Note that numbers like 13, 40, etc., are not considered lucky as they contain other digits.
The program should accept a number 'n' as input and display the nth lucky number as output

Sample Input 1:

3

Sample Output 1:

33

Question **3**
Correct
Marked out of 7.00
Flag question

A number is considered lucky if it contains either 3 or 4 or 3 and 4 both in it. Write a program to print the nth lucky number. Example, 1st lucky number is 3, and 2nd lucky number is 4 and 3rd lucky number is 33 and 4th lucky number is 34 and so on. Note that 13, 40 etc., are not lucky as they have other numbers in it.

The program should accept a number 'n' as input and display the nth lucky number as output.

Sample Input 1:

3

Sample Output 1:

33

Explanation:

Here the lucky numbers are 3, 4, 33, 34, and the 3rd lucky number is 33.

Sample Input 2:

34

Sample Output 2:

33344

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int n=1,i=0,nt,co=0,e;
    scanf("%d",&e);
    while(i<e)
    {
        nt=n;
        while(nt!=0)
        {
            co=0;
            if(nt%10!=3 && nt%10!=4)
            {
                co=1;
                break;
            }
            nt=nt/10;
        }
        if(co==0)
        {
            i++;
        }
        n++;
    }
    printf("%d",--n);
    return 0;
}
```

output:

	Input	Expected	Got	
✓	34	33344	33344	✓

Passed all tests! ✓