

HARSHAVARDHINI.M

CSD

241701018

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

SampleOutput:

WBW

BWB

WBW

WBWBW

BWBWB

WBWBW

BWBWB

WBWBW

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 int main(){
3     int t,s;
4     scanf("%d",&t);
5     while(t--){
6         scanf("%d",&s);
7         for(int i=0;i<s;i++){
8             for(int j=0;j<s;j++){
9                 if((i+j)%2==0){
10                     printf("W");
11                 }
12                 else{
13                     printf("B");
14                 }
15             }
16             printf("\n");
17         }
18     }
19 }
20 }
```

	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! ✓

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

SampleOutput:

WB

BW

BWB

WBW

BWB

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
3 int main(){
4     char s;
5     int t,n;
6     scanf("%d",&t);
7     while(t--){
8         scanf("%d %c",&n,&s);
9         for(int i=0;i<n;i++){
10             for(int j=0;j<n;j++){
11                 if((i+j)%2==0){
12                     printf("%c",s);
13                 }
14                 else{
15                     if(s=="W"){
16                         printf("B");
17                     }
18                     else{
19                         printf("W");
20                     }
21                 }
22             }
23             printf("\n");
24         }
25     }
26 }
```

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

Passed all tests! ✓

Activate Windows

Problem Statement:

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

***50607014015016*

*****809012013*

******10011*

Constraints: 2 ≤ N ≤ 100 Input

Format

First line contains T, the number of testcases, each testcase contains a single integer N

Output Format

First line print Case #i where i is the testcase number, In the subsequent line, print the pattern Sample

Input 3

3

4

5

SampleOutput

Case #1

10203010011012

**4050809

****607

Case #2

1020304017018019020

**50607014015016

****809012013

*****10011

Case #3

102030405026027028029030

**6070809022023024025

****10011012019020021

*****13014017018

*****15016

```

1 #include <stdio.h>
2
3 int main(){
4     int t;
5     scanf("%d",&t);
6     for(int x=1;x<=t;x++){
7         printf("Case #d\n",x);
8         int n;
9         scanf("%d",&n);
10        int f=1,b=n*(n+1);
11        for(int i=0;i<n;i++){
12            for(int j=0;j<2*i;j++){
13                printf("%d",f);
14            }
15            printf("%d",f);
16            f++;
17            for(int k=2;k<=n-i;k++){
18                printf("0%d",f);
19                f++;
20            }
21            for(int l=b-(n-i)+1;l<=b;l++){
22                printf("0%d",l);
23            }
24            b=n-i;
25            printf("\n");
26        }
27    }
28    return 0;
29 }

```

	Input	Expected	Got	
✓	3	Case #1	Case #1	✓
	3	10203010011012	10203010011012	
	4	**4050809	**4050809	
	5	***607	***607	
		Case #2	Case #2	
		1020304017018019020	1020304017018019020	
		**50607014015016	**50607014015016	
		***809012013	***809012013	
		*****10011	*****10011	
		Case #3	Case #3	
		102030405026027028029030	102030405026027028029030	
		**6070809022023024025	**6070809022023024025	
		***10011012019020021	***10011012019020021	
		*****13014017018	*****13014017018	
		*****15016	*****15016	

Passed all tests! ✓

Problem Statement:

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

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

Note: $1 \leq N \leq 10^8$

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

SampleOutput:

true

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 #include <math.h>
3
4 int main(){
5     int n,sum=0,t,c=0;
6     scanf("%d",&n);
7     t=n;
8     while(n>0){
9         n=n/10;
10        c=c+1;
11    }
12    n=t;
13    while(t>0){
14        sum=sum+pow((t%10),c);
15        t/=10;
16    }
17    if(sum==n){
18        printf("true");
19    }
20    else{
21        printf("false");
22    }
23 }
```

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

Passed all tests! ✓

Activate Windows
Go to Settings to activate Windows.

Problem Statement:

Take a number, reverse it and add it to the original number until the obtained number is a palindrome.

Constraints

$1 \leq \text{num} \leq 999999999$

Sample Input 1

32

Sample Output 1

55

Sample Input 2

789

Sample Output 2

66066

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
3
4 int rev(int n){
5     int reverse=0;
6     while(n>0){
7         reverse=(reverse*10)+(n%10);
8         n=n/10;
9     }
10    return reverse;
11 }
12 int Pal(int n){
13     return rev(n)==n;
14 }
15 int main(){
16     int n;
17     scanf("%d",&n);
18     while(!Pal(n)){
19         int r=rev(n);
20         n=n+r;
21     }
22     printf("%d",n);
23 }
```

Problem Statement:

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

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2
3 int main(){
4     int n=1;
5     int i=0,ns,c=0,e;
6     scanf("%d",&e);
7     while(i<e){
8         ns=n;
9         while(ns!=0){
10             c=0;
11             if(ns%10!=3&&ns%10!=4){
12                 c=1;
13                 break;
14             }
15             ns/=10;
16         }
17         if(c==0){
18             i++;
19         }
20         n++;
21     }
22     printf("%d",--n);
23 }
```

	Input	Expected	Got	
✓	34	33344	33344	✓

Passed all tests! ✓

Activate Windows

Go to Settings to activate Windows.