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Week-05-Nested Loops - while and for, Jumps in Loops

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Write a program that prints a simple chessboard.

Answer: (penalty regime: 0 %)

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

	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! ✓

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

Answer: (penalty regime: 0 %)

```
1  #include<stdio.h>
2  int main (){
3      int t,n;
4      char ch;
5      scanf("%d",&t);
6      while(t--){
7          scanf("%d %c",&n,&ch);
8          for (int i=0;i<n;i++){
9              for(int j=0;j<n;j++){
10                 if(ch=='W'){
11                     if((i+j)%2==0)
12                         printf("W");
13                     else
14                         printf("B");
15                 }
16                 else{
17                     if((i+j)%2==0)
18                         printf("B");
19                     else
20                         printf("W");
21                 }
22             }
23             printf("\n");
24         }
25     }
26     return 0;
27 }
```

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

Passed all tests! ✓

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

Answer: (penalty regime: 0 %)

```
1  #include<stdio.h>
2  int main (){
3      int t,n,x,y,z=1,i,ans,c;
4      scanf("%d",&t);
5      while(z<=t)
6      {
7          scanf("%d",&n);
8          printf("Case #%d\n",z);
9          y=1;
10         i=1;
11         c=0;
12         while(y<=n){
13             x=1;
14             ans=(n*n);
15             ans=ans-c;
16             while(x<=2*n){
17                 if (x<=n){
18                     if(x<y){
19                         printf("***");
20                     }
21                     else if(x<=n){
22                         printf("%d",i*10);
23                         i++;
24                     }
25                 }
26                 else{
27                     if((x+y)==(2*n)+1){
28                         printf("%d", (ans+y));
29                         ans++;
30                         c++;
31                     }
32                     else if(x+y<=(2*n)+1){
33                         printf("%d", (ans+y)*10);
34                         ans++;
35                         c++;
36                     }
37                 }
38                 x++;
39             }
40             y++;
41             printf("\n");
42         }
43         z++;
44     }
45
46     return 0;
47 }
```

	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! ✓