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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 %)

```c
#include<stdio.h>
int main(){
    int t,size;
    scanf("%d",&t);
    while(t--){
        scanf("%d",&size);
        for(int i=0;i<size;i++){
            for(int j=0;j<size;j++){
                if((i+j)%2==0)
                printf("W");
                else
                printf("B");
            }
            printf("\n");
        }
    }
    return 0;
}
```

	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 %)

```c
#include<stdio.h>
int main (){
    int t,n;
    char ch;
    scanf("%d",&t);
    while(t--){
        scanf("%d %c",&n,&ch);
        for (int i=0;i<n;i++){
            for(int j=0;j<n;j++){
                if(ch=='W'){
                    if((i+j)%2==0)
                        printf("W");
                    else
                        printf("B");
                }
                else{
                    if((i+j)%2==0)
                        printf("B");
                    else
                        printf("W");
                }
            }
            printf("\n");
        }
    }
    return 0;
}
```

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

```c
#include<stdio.h>
int main (){
    int t,n,x,y,z=1,i,ans,c;
    scanf("%d",&t);
    while(z<=t)
    {
        scanf("%d",&n);
        printf("Case #%d\n",z);
        y=1;
        i=1;
        c=0;
        while(y<=n){
        x=1;
        ans=(n*n);
        ans=ans-c;
        while(x<=2*n){
            if (x<=n){
                if(x<y){
                    printf("**");
                }
                else if(x<=n){
                    printf("%d",i*10);
                    i++;
                }
            }
            else{
                if((x+y)==(2*n)+1){
                    printf("%d",(ans+y));
                    ans++;
                    c++;
                }
                else if(x+y<=(2*n)+1){
                    printf("%d",(ans+y)*10);
                    ans++;
                    c++;
                }
            }
            x++;
        }
        y++;
        printf("\n");
        }
        z++;
    }
    
    return 0;
}
```

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

Passed all tests! ✓