

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



### Week-05-01-Practice Session-Coding

**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.

### Source code:

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

### Result:

	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! ✓

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

## Source code:

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

## Result:

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

Passed all tests! ✓

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

\*\*50607014015016

\*\*\*\*809012013

\*\*\*\*\*10011

Constraints

2 <= N <= 100

## Source code:

```
1 #include<stdio.h>
2 int main()
3 {
4     int t;
5     scanf("%d",&t);
6     for(int x=1;x<=t;x++)
7     {
8         printf("Case #d\n",x);
9         int n;
10        scanf("%d",&n);
11        int f=1,b=n*(n+1);
12        for(int i=0;i<n;i++)
13        {
14            for(int k=0;k<2*i;k++)
15            {
16                printf(" ");
17            }
18            printf("%d",f);
19            f++;
20            for(int j=2;j<=n-i;j++)
21            {
22                printf("0%d",f);
23                f++;
24            }
25            for(int l=b-(n-i)+1;l<=b;l++)
26            {
27                printf("0%d",l);
28            }
29            b-=n-i;
30            printf("\n");
31        }
32        return 0;
33    }
34 }
```

## Result:

	Input	Expected	Got	
✓	3	Case #1 10203010011012 **4050809 ****607	Case #1 10203010011012 **4050809 ****607	✓
	4	Case #2 1020304017018019020 **50607014015016 ****809012013 *****10011	Case #2 1020304017018019020 **50607014015016 ****809012013 *****10011	
	5	Case #3 10203040502027028029030 **6070809022023024025 ****10011012013020021 *****13014017018 *****15016	Case #3 10203040502027028029030 **6070809022023024025 ****10011012013020021 *****13014017018 *****15016	

Passed all tests! ✓