

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

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

#### Question 1

Correct

Write a program that prints a simple chessboard.

#### SOURCE CODE:

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

## 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

## SOURCE CODE:

```

1  #include <stdio.h>
2  int main()
3  {
4      int t,n;
5      char ch;
6      scanf("%d",&t);
7      while(t--){
8          scanf("%d %c",&n,&ch);
9          for(int i=0;i<n;i++){
10             for(int j=0;j<n;j++){
11                 if(ch=='W'){
12                     if((i+j)%2==0)
13                         printf("W");
14                     else
15                         printf("B");
16                 }
17                 else{
18                     if((i+j)%2==0)
19                         printf("B");
20                     else
21                         printf("W");
22                 }
23             }
24             printf("\n");
25         }
26     }
27     return 0;
28 }
29
30

```

## 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

$2 \leq N \leq 100$

## SOURCE CODE:

```
1 #include <stdio.h>
2 int main()
3 {
4     int t,n,x,y,z=1,i,ans,c;
5     scanf("%d",&t);
6     while(z<=t){
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                    } else if(x<=n){
21                        printf("%d",i*10);
22                        i++;
23                    }
24                    else{
25                        if((x+y)==(2*n)+1){
26                            printf("%d", (ans+y));
27                            ans++;
28                            c++;
29                        }
30                        else if(x+y<=(2*n)+1){
31                            printf("%d", (ans+y)*10);
32                            ans++;
33                            c++;
34                        }
35                        x++;
36                    }
37                    y++;
38                    printf("\n");
39                }
40                z++;
41            }
42            return 0;
43        }
44    }
```

## RESULT:

	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! ✓