

Week 5-1:

--Practice Session- Coding

ROLL NO.:240801175

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Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Monday, 16 December 2024, 10:23 PM
Duration	6 days 19 hours

Q1) 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

Sample Output:

WBW

BWB

WBW

WBWBW

BWBWB

WBWBW

BWBWB

WBWBW

Code:

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

Output:

	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! ✓

Q2) 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

Sample Output:

WB

BW

BWB

WBW

BWB

Code:

```
1 #include<stdio.h>
2
3 int main(){
4     int a,b;
5     char c;
6     scanf("%d",&a);
7     while(a--){
8         scanf("%d %c",&b,&c);
9         for( int i=0;i<b;i++){
10            for( int j=0;j<b;j++){
11                if(c=='W'){
12                    if((i + j)%2==0){
13                        printf("W");
14                    }
15                    else{
16                        printf("B");
17                    }
18                }
19                else{
20                    if((i + j)%2==0){
21                        printf("B");
22                    }
23                    else{
24                        printf("W");
25                    }
26                }
27            }
28            printf("\n");
29        }
30    }
31
32    return 0;
33 }
```

Output:

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

Passed all tests! ✓

Q3) 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: $2 \leq N \leq 100$

Input Format

First line contains T, the number of test cases, each test case contains a single integer N

Output Format

First line print Case #i where i is the test case number, In the subsequent line, print the pattern

Sample Input

3

3

4

5

Sample Output

Case #1

10203010011012

**4050809

****607

Case #2

1020304017018019020

**50607014015016

****809012013

*****10011

Case #3

102030405026027028029030

**6070809022023024025

****10011012019020021

*****13014017018

*****15016

Code:

```

1 #include<stdio.h>
2 int main()
3 {
4     int p,q,r,s,t = 1,u,ans,v;
5     scanf("%d",&p);
6     while(t<=p)
7     {
8         scanf("%d",&q);
9         printf("Case %d \n",t);
10        s=1;
11        u=1;
12        v=0;
13        while(s<=q)
14        {
15            r=1;
16            ans = (q*q);
17            ans = ans - v;
18            while(r<=2*q)
19            {
20                if(r<=q)
21                {
22                    if(r<s)
23                    {
24                        printf("***");
25                    }
26                    else if(r<=q)
27                    {
28                        printf("%d",u*10);
29                        u++;
30                    }
31                }else{
32                    if((r+s)==(2*q)+1)
33                    {
34                        printf("%d", (ans+s));
35                        ans++;
36                        v++;
37                    }
38                    else if(r+s<=(2*q)+1){
39                        printf("%d", (ans-s)*10);
40                        ans++;
41                        v++;
42                    }
43                }
44                r++;
45            }
46            s++;
47            printf("\n");
48        }
49        t++;
50    }
51    return 0;
52 }

```

Output:

	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! ✓