

Week 5 – 01:

ROLL NO.:240801112

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

```

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

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     int num,t;
4     scanf("%d",&t);
5     int st1=1;
6     int st2;
7     for(int k=1;k<=t;k++){
8         printf("Case #%d\n",k);
9         scanf("%d",&num);
10        st1=1;
11        st2=num*(num+1);
12        for(int i=0;i<num;i++)
13        {
14            for(int j=0;j<i;j++){
15                printf("**");
16            }
17            for(int j=0;j<num-i;j++){
18                printf("%d",(st1++)*10);
19            }
20            st2=st2-(num-i-1);
21            for(int j=0;j<(num-i-1);j++){
22                printf("%d",(st2++)*10);
23            }
24            printf("%d",st2);
25            st2=st2-(num-i);
26            printf("\n");
27        }
28    }
29    return 0;
30 }
```

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! ✓