Week 5 – 1:

ROLL NO.:240801194

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Attempt 1	
Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Thursday, 19 December 2024, 9:07 AM
Duration	4 days 8 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** 

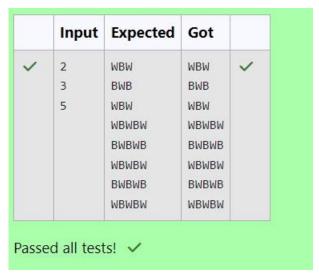
**BWBWB** 

**WBWBW** 

Code:

```
#include <stdio.h>
1
 2 v
    int main(){
        int T,d,i=0,i1,i2,o;
 3
        char c;
 4
        scanf("%d",&T);
 5
        while (i<T){
 6 *
            scanf("%d",&d);
 7
 8
            i1=0;
 9 *
            while(i1<d){
                 0=1;
10
11
                 i2=0;
                 if(i1%2==0){
12 *
13
                     0=0;
14
                 while (i2<d){
15 *
16
                     c='B';
                     if (i2%2==o){
17 *
18
                         c='W';
19
                     }
                     printf("%c",c);
20
                     i2++;
21
22
23
                 i1+=1;
                 printf("\n");
24
25
            i=i+1;
26
27
   }
28
```

OUTPUT:



## 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:

```
#include <stdio.h>
2 * int main(){
        int T,d,i,i1,i2,o,z;
 3
        char c,s;
 4
        scanf("%d",&T);
 5
        for (i=0;i<T;i++){
 6 *
            scanf("%d %c",&d ,&s);
 7
            for (i1=0;i1<d;i1++){
 8 *
                z=(s=='W')?0:1;
 9
10
                o=(i1%2==z)?0:1;
                for (i2=0;i2<d;i2++){
11 *
                    c=(i2%2==o)? 'W':'B';
12
                    printf("%c",c);
13
14
                printf("\n");
15
16
17
18
        return 0;
19
   }
```

## 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 <= N <= 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
```

Code:

\*\*\*\*\*\*15016

```
#include <stdio.h>
 1
 2 *
    int main(){
 3
        int n,v,p3,c,in,i,i1,i2,t,ti;
         scanf("%d",&t);
 4
 5 ,
        for (ti=0;ti<t;ti++){
 6
             V=0;
 7
             scanf("%d",&n);
 8
             printf("Case #%d\n",ti+1);
 9 .
             for (i=0;i<n;i++){
10
                 c=0;
11 ,
                 if(i>0){
12
                     for(i1=0;i1<i;i1++) printf("**");
13
14 *
             for(i1=i;i1<n;i1++){
                 if(i>0) c++;
15
16
                 printf("%d0",++v);
17
             if(i==0){
18 •
19
                 p3=v+(v^*(v-1))+1;
20
                 in=p3;
21
             }
22
             in=in-c;
23
             p3=in;
             for(i2=i;i2<n;i2++){
24 ₹
                 printf("%d",p3++);
25
26
                 if(i2!=n-1) printf("0");
             }printf("\n");
27
28
             }
29
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! <