Week 5 – 1:

ROLL NO.:240801180

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Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Thursday, 19 December 2024, 9:49 AM
Duration	4 days 7 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

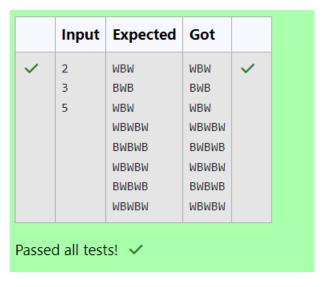5

Sample Output:

WBW

BWB

WBW

WBWBW

BWBWB

WBWBW

BWBWB

WBWBW

Code:

```c
1   #include<stdio.h>
2   int main()
3   {
4       int T,d,i=0,i1,i2,o;
5       char c;
6       scanf("%d",&T);
7       while(i<T)
8       {
9           scanf("%d",&d);
10          i1=0;
11          while(i1<d)
12          {
13              o=1;
14              i2=0;
15              if(i1%2==0)
16              {
17                  o=0;
18              }
19              while(i2<d)
20              {
21                  c='B';
22                  if(i2%2==o)
23                  {
24                      c='W';
25                  }
26                  printf("%c",c);
27                  i2++;
28              }i1+=1;
29              printf("\n");
30          }i=i+1;
31      }
32
33  }
```

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

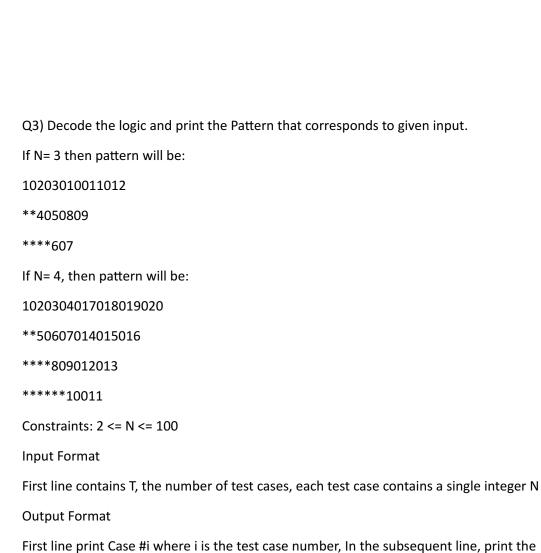Sample Output:

WB

BW

BWB

WBW

BWB

Code:

```
1    #include<stdio.h>
2    int main()
3  ▾ {
4        int T,d,i,i1,i2,o,z;
5        char c,s;
6        scanf("%d",&T);
7        for(i=0;i<T;i++)
8  ▾    {
9            scanf("%d %c",&d,&s);
10           for(i1=0;i1<d;i1++)
11 ▾         {
12               z=(s=='W')?0:1;
13               o=(i1%2==z)?0:1;
14               for(i2=0;i2<d;i2++)
15 ▾             {
16                   c=(i2%2==o)?'W':'B';
17                   printf("%c",c);
18               }
19               printf("\n");
20           }
21       }
22       return 0;
23 }
```

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

10203040 5026027028029030

**6070809022023024025

****10011012019020021

******13014017018

********15016

Code:

```c
#include<stdio.h>
int main()
{
    int n,v,p3,c,in,i,i1,i2,t,ti;
    scanf("%d",&t);
    for(ti=0;ti<t;ti++)
    {
        v=0;
        scanf("%d",&n);
        printf("Case #%d \n",ti+1);
        for(i=0;i<n;i++)
        {
            c=0;
            if(i>0)
            {
                for (i1=0;i1<i;i1++)
                printf("**");
            }
            for(i1=i;i1<n;i1++)
            {
                if(i>0)
                c++;
                printf("%d0",++v);
            }
            if(i==0)
            {
                p3=v+(v*(v-1))+1;
                in=p3;
            }
            in=in-c;
            p3=in;
            for(i2=i;i2<n;i2++)
            {
                printf("%d",p3++);
                if(i2!=n-1)
                printf("0");

            }
            printf("\n");
        }
    }

}
```

OUTPUT:

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	✓

Passed all tests! ✓