Week 5 – 1:

ROLL NO.:240801148

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Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Monday, 9 December 2024, 2:20 PM
Duration	14 days 3 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

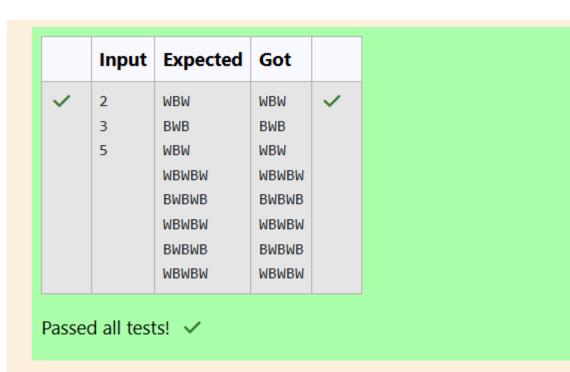
BWBWB

WBWBW

Code:

```
#include <stdio.h>
 2
    void cb(int size)
 3 ▼ {
         char square[] = {'W','B'};
 4
 5
        for (int i=0;i<size;i++)</pre>
 6 🔻
             for (int j=0;j<size;j++)</pre>
 7
 8 *
                 printf("%c",square[(i+j)%2]);
 9
10
11
        printf("\n");
12
13
14
    int main()
15
16 •
    {
17
         int t;
         scanf("%d",&t);
18
        while(t--)
19
20 •
21
             int size;
             scanf("%d",&size);
22
             cb(size);
23
24
25
         return 0;
26
```

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
    void cb (int size,char start)
3 ▼
    {
        char square[] = {start,(start == 'W')? 'B':'W'};
4
 5
        for (int i=0;i<size;i++)</pre>
 6 🔻
            for (int j=0;j<size;j++)</pre>
 7
8 ,
                 printf("%c", square[(i+j)%2]);
9
10
            printf("\n");
11
12
13
14
    int main()
15 ▼ {
        int t;
scanf("%d",&t);
16
17
        while(t--)
18
19 •
20
             int size;
21
            char start;
22
            scanf("%d %c",&size,&start);
23
            cb (size,start);
24
25
        return 0;
26 }
```

OUTPUT:

		Input	Expected	Got	
ı	~	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
****15016
Code:

```
|#include <stdio.h>
 2
    int main()
 3 🔻
    {
 4
         int t;
         scanf("%d",&t);
 5
 6
         for(int x=1;x<=t;x++)</pre>
 7 🔻
             printf("Case #%d\n",x);
 8
 9
             int n;
             scanf("%d",&n);
10
             int f=1,b=n*(n+1);
11
12
             for (int i=0;i<n;i++)</pre>
13 🔻
                  for(int k=0;k<2*i;k++)</pre>
14
15 •
                  {
                      printf("*");
16
17
                  }
                  printf("%d",f);
18
                  f++;
19
20
                  for (int j=2; j<=n-i; j++)
21 v
22
                      printf("0%d",f);
23
                      f++;
24
25
                  for(int l=b-(n-i)+1; l<=b; l++)
26 •
                      printf("0%d",1);
27
28
29
                  b -= n-i;
                  printf("\n");
30
31
32
         }
    1
33
```

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! 🗸