Week 5 – 01:

ROLL NO.:240801052

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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:

Status	Finished
Started	Sunday, 12 January 2025, 9:17 PM
Completed	Sunday, 12 January 2025, 10:27 PM
Duration	1 hour 10 mins

```c
#include <stdio.h>
int main(){
    int t,size;
    scanf("%d",&t);
    while(t--)
    {
        scanf("%d",&size);
        for(int i=0;i<size;i++)
        {
            for(int j=0;j<size;j++)
            {
                if((i+j)%2==0)
                printf("W");
                else
                printf("B");
            }
            printf("\n");
        }
    }
    return 0;
}
```

OUTPUT:

	Input	Expected	Got	
✓	2 3 5	WBW BWB WBW WBWBW BWBWB WBWBW BWBWB WBWBW	WBW BWB WBW WBWBW BWBWB WBWBW BWBWB 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:

```c
#include<stdio.h>
int main(){
    int t,size;
    char ch;
    scanf("%d",&t);
    while(t--)
    {
        scanf("%d %c",&size,&ch);
        for(int i=0;i<size;i++)
        {
            for(int j=0;j<size;j++)
            {
                if((i+j)%2==0)
                printf("%c",ch);
                else
                printf("%c",(ch=='W')?'B':'W');
            }
            printf("\n");
        }
    }
    return 0;
}
```

OUTPUT:

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

10203040502602702802 9030

**607080902202302 4025

****10011012019020021

******13014017018

********15016

CODE:

```
#include<stdio.h>
int main(){
int num,t;
scanf("%d",&t);
int st1=1;
int st2;
for(int k=1;k<=t;k++){
printf("Case #%d\n",k);
scanf("%d",&num);
st1=1;
st2=num*(num+1);
for(int i=0;i<num;i++)
{
for(int j=0;j<i;j++){
printf("**");
}
for(int j=0;j<num-i;j++){
printf("%d",(st1++)*10);
}
st2=st2-(num-i-1);
for(int j=0;j<(num-i-1);j++){
printf("%d",(st2++)*10);
}
printf("%d",st2);
st2=st2-(num-i);
printf("\n");
}
}
return 0;
}
```

OUTPUT:

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802 9030 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802 9030 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	✓

Passed all tests! ✓