Week 5 – 1:

--Nested Loops – while sand for , Jumps Loops

ROLL NO.:241501225

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Status	Finished
Started	Monday, 23 December 2024, 5:33 PM
Completed	Thursday, 21 November 2024, 8:01 PM
Duration	31 days 21 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

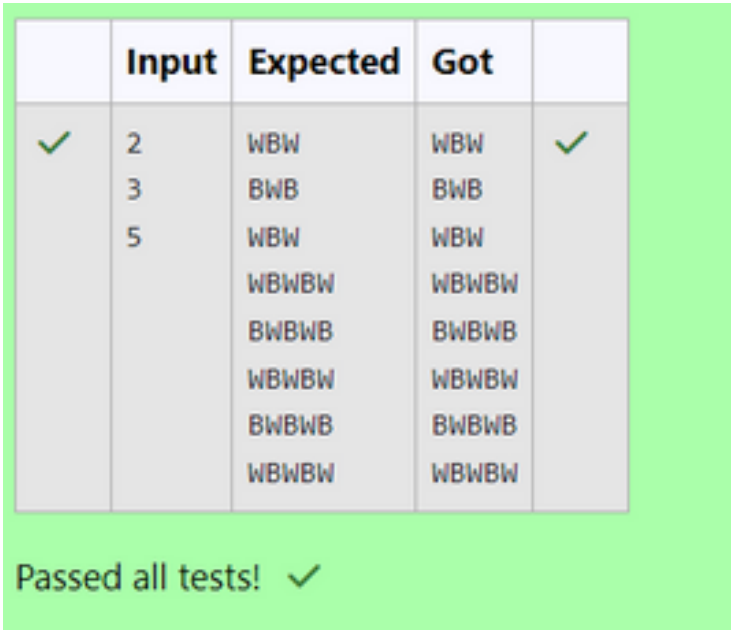
WBWBW

Code:

Answer: (penalty regime: 0 %)

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

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

Answer: (penalty regime: 0 %)

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

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

102030405026027028029030

**6070809022023024025

****10011012019020021

******13014017018

********15016

Code:

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
int main()
{
    int t,n,x,y,z=1,i,ans,c;
    scanf("%d",&t);
    while(z<=t)
    {
        scanf("%d",&n);
        printf("Case #%d\n",z);
        y=1;
        i=1;
        c=0;
        while(y<=n)
        {
            x=1;
            ans=(n*n);
            ans=ans-c;
            while(x<=2*n)
            {
                if(x<=n)
                {
                    if(x<y)
                printf("**");
                else if(x<=n)
                {
                    printf("%d",i*10);
                    i++;
                }
                }
                else
                {
                   if((x+y)==(2*n)+1)
                   {
                     printf("%d",(ans+y));
                     ans++;
                     c++;

                   }
                else if(x+y<=(2*n)+1)
                {
                    printf("%d",(ans+y)*10);
                    ans++;
                    c++;
                }
                }

            x++;
        }
        y++;
        printf("\n");
    }
   z++;
}
}
```

OUTPUT:

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802 9030 **607080902202302 4025 ****10011012019020021 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802 9030 **607080902202302 4025 ****10011012019020021 ******13014017018 ********15016	✓

Passed all tests! ✓