

Week 5 – 1:

ROLL NO.:240801182

Name: Lokesh M

Attempt 1	
<b>Status</b>	Finished
<b>Started</b>	Monday, 23 December 2024, 5:33 PM
<b>Completed</b>	Saturday, 14 December 2024, 2:21 PM
<b>Duration</b>	9 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:

```
1 #include <stdio.h>
2 int main()
3 {
4     int x,s;
5     scanf("%d",&x);
6     while(x-->0)
7     {
8         scanf("%d",&s);
9         for(int i=0;i<s;i++)
10        {
11            for(int j=0;j<s;j++)
12            {
13                if ((i+j)%2==0)
14                {
15                    printf("W");
16                }
17                else
18                {
19                    printf("B");
20                }
21            }printf("\n");
22        }
23    }return 0;
24 }
```

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 a,b;
5     char ch;
6     scanf("%d",&a);
7     while (a-->0)
8     {
9         scanf("%d %c",&b,&ch);
10        for (int i=0;i<b;i++)
11        {
12            for (int j=0;j<b;j++)
13            {
14                if(ch=='W')
15                {
16                    if((i+j)%2==0)
17                    {
18                        printf("W");
19                    }else
20                    {
21                        printf("B");
22                    }
23                }else
24                {
25                    if((i+j)%2==0)
26                    {
27                        printf("B");
28                    }else
29                    {
30                        printf("W");
31                    }
32                }
33            }printf("\n");
34        }
35    }return 0;
36 }
```

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:  $2 \leq N \leq 100$

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:

```
1  #include<stdio.h>
2  int main()
3  {
4      int p,q,r,s,t=1,u,ans,v;
5      scanf("%d",&p);
6      while(t<=p)
7      {
8          scanf("%d",&q);
9          printf("Case #%d \n",t);
10         s=1;
11         u=1;
12         v=0;
13         while(s<=q)
14         {
15             r=1;
16             ans = (q*q);
17             ans = ans-v;
18             while(r<=2*q)
19             {
20                 if(r<=q)
21                 {
22                     if(r<s)
23                     {
24                         printf("***");
25                     }else if(r<=q)
26                     {
27                         printf("%d",u*10);
28                         u++;
29                     }}else
30                     {
31                         if((r+s)==(2*q)+1)
32                         {
33                             printf("%d", (ans+s));
34                             ans++;
35                             v++;
36                         }else if (r+s<=(2*q)+1){
37                             printf("%d", (ans+s)*10);
38                             ans++;
39                             v++;
40                         }
41                     }
42                     r++;
43                 }
44                 s++;
45                 printf("\n");
46             }
47             t++;
48         }
49         return 0;
50     }
```

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! ✓