

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:

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

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  void cb (int size,char start)
3  {
4      char square[] = {start,(start == 'W')? 'B':'W'};
5      for (int i=0;i<size;i++)
6      {
7          for (int j=0;j<size;j++)
8          {
9              printf("%c",square[(i+j)%2]);
10             }
11             printf("\n");
12         }
13     }
14     int main()
15     {
16         int t;
17         scanf("%d",&t);
18         while(t--)
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	
✓	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 t;
5      scanf("%d",&t);
6      for(int x=1;x<=t;x++)
7      {
8          printf("Case #%d\n",x);
9          int n;
10         scanf("%d",&n);
11         int f=1,b=n*(n+1);
12         for (int i=0;i<n;i++)
13         {
14             for(int k=0;k<2*i;k++)
15             {
16                 printf("*");
17             }
18             printf("%d",f);
19             f++;
20             for (int j=2;j<=n-i;j++)
21             {
22                 printf("0%d",f);
23                 f++;
24             }
25             for(int l=b-(n-i)+1;l<=b;l++)
26             {
27                 printf("0%d",l);
28             }
29             b -= n-i;
30             printf("\n");
31         }
32     }
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! ✓