GE23131-Programming Using C-2024

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Week 5-1:

Status	Finished
Started	Sunday, 29 December 2024, 11:00 PM
Completed	Sunday, 29 December 2024, 11:22 PM
Duration	22 mins 3 secs

Problem 1:

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>
 1
 2 🔻
    int main(){
 3
         int T,d,i=0,i1,i2,o;
 4
         char c;
         scanf("%d",&T);
 5
        while (i<T){
 6 •
             scanf("%d",&d);
 7
 8
             i1=0;
9 🔻
             while(i1<d){</pre>
10
                 0=1;
11
                 i2=0;
                 if(i1%2==0){
12 v
13
                     o=0;
14
15 •
                 while (i2<d){
                     c='B';
16
                     if (i2%2==o){
17 •
                         c='W';
18
19
20
                     printf("%c",c);
21
                     i2++;
22
23
                 i1+=1;
                 printf("\n");
24
25
26
             i=i+1;
27
   }
28
```

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! <

Problem 2:

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 🔻
    int main(){
 3
        int T,d,i,i1,i2,o,z;
 4
        char c,s;
 5
        scanf("%d",&T);
        for (i=0;i<T;i++){
 6 🔻
            scanf("%d %c",&d ,&s);
 7
             for (i1=0;i1<d;i1++){
 8 *
                z=(s=='W')?0:1;
 9
                o=(i1%2==z)?0:1;
10
11 🔻
                 for (i2=0;i2<d;i2++){
12
                     c=(i2%2==o)? 'W':'B';
                     printf("%c",c);
13
14
                printf("\n");
15
16
17
        return 0;
18
19
```

OUTPUT:

_				
Y	2	WB	WB	~
	2 W	BW	BW	
	3 B	BWB	BWB	
		WBW	WBW	
		BWB	BWB	

Problem 3:

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:

```
1
    #include <stdio.h>
    int main(){
 2 1
 3
         int n,v,p3,c,in,i,i1,i2,t,ti;
         scanf("%d",&t);
 4
         for (ti=0;ti<t;ti++){</pre>
 5
             v=0;
 6
             scanf("%d",&n);
 7
             printf("Case #%d\n",ti+1);
 8
 9
             for (i=0;i<n;i++){
10
                  c=0;
11 *
                  if(i>0){
                      for(i1=0;i1<i;i1++) printf("**");</pre>
12
                  }
13
14 ▼
             for(i1=i;i1<n;i1++){</pre>
15
                  if(i>0) c++;
                  printf("%d0",++v);
16
17
             if(i==0){
18
                  p3=v+(v*(v-1))+1;
19
20
                  in=p3;
21
22
             in=in-c;
23
             p3=in;
             for(i2=i;i2<n;i2++){
24 🔻
                  printf("%d",p3++);
25
                  if(i2!=n-1) printf("0");
26
             }printf("\n");
27
28
             }
29
         }
   1
30
```

OUTPUT:

Case #1 10203010011012 10203010011012 4 **4050809 5 ****607 Case #2 1020304017018019020 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 *******15016 Case #1 102030405026027028029030 **6070809022023024025 ****10011012019020021 *******13014017018 ********15016		Input	Expected	Got	
4050809 **4050809 **607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ******13014017018	/	3	Case #1	Case #1	~
****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ******13014017018		3	10203010011012	10203010011012	
Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 Case #2 1020304017018 1020304017018 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018		4	**4050809	**4050809	
1020304017018019020		5	****607	****607	
50607014015016 **809012013 *****10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ******13014017018			Case #2	Case #2	
****809012013 ******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ******13014017018 *******13014017018			1020304017018019020	1020304017018019020	
******10011 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 ******13014017018 *******13014017018			**50607014015016	**50607014015016	
Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018 Case #3 102030405026027028029030 **6070809022023024025 ****10011012019020021 ******13014017018			****809012013	****809012013	
102030405026027028029030			*****10011	*****10011	
**6070809022023024025			Case #3	Case #3	
****10011012019020021			102030405026027028029030	102030405026027028029030	
*****13014017018 ******13014017018			**6070809022023024025	**6070809022023024025	
			****10011012019020021	****10011012019020021	
*******15016			*****13014017018	*****13014017018	
			******15016	******15016	
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