SAISANJAY SS 2024-CSE S2

Week-05-Nested Loops - while and for, Jumps in Loops

Week-05-01-Practice Session Coding

Question **1**

Correct

Marked out of 3.00

Flag question

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 values for size of the chessboard

Source Code

Answer: (penalty regime: 0 %)

```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;
}
```

Result

	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! ✓

Question **2**

Correct

Marked out of 5.00

Flag question

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

Source Code

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

Result

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

Passed all tests! ✓

Question **3**

Correct

Marked out of 7.00

Flag question

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

Source Code

Answer: (penalty regime: 0 %)

```
#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++;
    }
    return 0;
}
```

Result

	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! ✓