SANSHIA J 2024-CSE S2

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

Week-05-01-Practice Session-Coding

Question 1

Correct

Write a program that prints a simple chessboard.

SOURCE CODE:

```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

SOURCE CODE:

```c
#include <stdio.h>
int main()
{
    int t,n;
    char ch;
    scanf("%d",&t);
    while(t--){
        scanf("%d %c",&n,&ch);
        for(int i=0;i<n;i++){
            for(int j=0;j<n;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");


        }
    }
    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

Constraints

2 <= N <= 100

SOURCE CODE:

```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++;
                }
                return 0;
            }

```

RESULT:

	Input	Expected	Got	
✓	3 3 4 5	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	Case #1 10203010011012 **4050809 ****607 Case #2 1020304017018019020 **50607014015016 ****809012013 ******10011 Case #3 10203040502602702802903 0 **6070809022023024025 ****10011012019020021 ******13014017018 ********15016	✓

Passed all tests! ✓