

Week 5 :

Practice session 01 :

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

Output format:

Print a chessboard of dimensions size * size. Print a Print W for white spaces and B for black spaces.

Input:

```
2
3
5
```

Output:

```
WBW
BWB
WBW
WBWBW
BWBWB
WBWBW
BWBWB
WBWBW
```

Answer: (penalty regime: 0 %)

Coding and Output:

Answer: (penalty regime: 0 %)

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

	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! ✓

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

Sample Input / Output

Input:

2

2 W

3 B

Output:

WB

BW

BWB

WBW

BWB

Answer: (penalty regime: 0 %)

Coding and output:

REC-CIS - Personal - Microsoft Edge

/moodle/mod/quiz/review.php?attempt=122535&cmid=122

MOHIDEENABDULKADER ML 2024-CSE M2

BWB

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 int main() {
3     int T,N;
4     char startchar;
5     scanf("%d",&T);
6     while (T--) {
7         scanf("%d %c", &N, &startchar);
8         char firstchar = startchar;
9         char secondchar = (startchar == 'W') ? 'B': 'W';
10        for (int i=0;i<N;i++) {
11            for (int j=0;j<N;j++){
12                if ((i+j)%2==0) {
13                    printf("%c", firstchar);
14                } else {
15                    printf("%c", secondchar);
16                }
17            }
18            printf("\n");
19        }
20        return 0;
21    }
22 }
```

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

Passed all tests! ✓

Question 3
Incorrect
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

$2 \leq N \leq 100$

Input Format

First line contains T, the number of test cases

Each test case contains a single integer N

Output

First line print Case #i where i is the test case number

First line print Case #i where i is the test case number

In the subsequent line, print the pattern

Test Case 1

3

3

4

5

Output

Case #1

10203010011012

**4050809

****607

Case #2

1020304017018019020

**50607014015016

****809012013

*****10011

Case #3

102030405026027028029030

**6070809022023024025

****10011012019020021

*****13014017018

*****15016

Coding and output:

MOHIDEENABDULKADER ML 2024-CSE

review | REC-CIS - Personal - Microsoft Edge

s.org/moodle/mod/quiz/review.php?attempt=122535&cmid=122

```
1 //C++
2 #include <iostream.h>
3 using namespace std;
4 int main() {
5     int t,i;
6     scanf("%d", &t);
7     for (i=1;i<=t;i++) {
8         int n;
9         scanf("%d", &n);
10        printf("Case %d\n", i);
11        int left_off = n % 2;
12        int row = n, start=1;
13        for (int j=1; j<=n; j++) {
14            left_off += 2*(n-j);
15        }
16        for (int j=0; j<rows; j++) {
17            for (int k=j*2; k<=n; k++) {
18                printf("%d", k);
19                if (k % 2 == 0) {
20                    printf("\n", start+k);
21                } else {
22                    printf("%d", left_off + k);
23                }
24                if (k % 2 == 0) {
25                    printf("\n");
26                }
27            }
28        }
29        return 0;
30    }
```

	Input	Expected	Got	
X	3	Case #1	Case #1	X
	3	102030405060710812	102030405060710812	
	4	**4060809	**102030405060710812	
	5	****607	****102030405060710812	
		Case #2	Case #2	
		10203040506071081210820	10203040506071081210820	
		**506070814015016	**10203040506071081210820	
		****809012013	****10203040506071081210820	
		*****10011	*****10203040506071081210820	
		Case #3	Case #3	
		1020304050607108121082029030	1020304050607108121082029030	
		**40708090120130204025	**1020304050607108121082029030	
		****100110120130204025	****1020304050607108121082029030	
		*****1014017018	*****1020304050607108121082029030	
		*****15016	*****1020304050607108121082029030	

Some hidden test cases failed, too.

Practice session 02:

Question 1
Correct
Marked out of
3.00
Flag question

The k-digit number N is an Armstrong number if and only if the k-th power of each digit sums to N.

Given a positive integer N, return true if and only if it is an Armstrong number.

Example 1:

Input:

153

Output:

true

Explanation:

153 is a 3-digit number, and $153 = 1^3 + 5^3 + 3^3$.

Example 2:

Input:

123

Output:

false

Explanation:

123 is a 3-digit number, and $123 \neq 1^3 + 2^3 + 3^3 = 36$.

Example 3:

Input:

1634

Output:

true

Note:

$1 \leq N \leq 10^8$

Code and output :

1 <= N <= 10^8

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 int main()
3 {
4     int n,i,len;
5     scanf("%d", &n);
6
7     for (i=n, len=1; ; len++, i/=10) {
8         if (i/10 == 0)
9             break;
10    }
11    int psum = 0, temp = n;
12    for (i=0; i<len; i++) {
13        int digit = n%10;
14        int power = digit;
15        for (int j=1; j<len; j++) {
16            power *= digit;
17        }
18        psum += power;
19        n /= 10;
20    }
21    if (temp == psum) {
22        printf("true");
23    } else {
24        printf("false");
25    }
26    return 0;
27 }
```

	Input	Expected	Got	
✓	153	true	true	✓
✓	123	false	false	✓

Passed all tests! ✓

Question 2 , code and output:

Question 2
Correct
Marked out of 5.00
Flag question

Take a number, reverse it and add it to the original number until the obtained number is a palindrome. Constraints 1<=num<=99999999 Sample Input 1 32 Sample Output 1 55 Sample Input 2 789 Sample Output 2 66066

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     scanf("%d", &n);
6
7     int temp = n, r=0;
8     do {
9         r=r*10+temp%10;
10        temp/= 10;
11    } while (temp != 0);
12    n += r;
13
14    do {
15        temp = n, r = 0;
16
17        do{
18            r=r*10+temp%10;
19            temp /= 10;
20        } while (temp != 0);
21
22        if (n==r)
23            break;
24        n += r;
25    } while (1);
26    printf("%d", n);
27    return 0;
28 }
29 }
```

	Input	Expected	Got	
✓	32	55	55	✓
✓	789	66066	66066	✓

Passed all tests! ✓

Question 3
Correct
Marked out of
7.00
Flag question

A number is considered lucky if it contains either 3 or 4 or 3 and 4 both in it. Write a program to print the nth lucky number. Example, 1st lucky number is 3, and 2nd lucky number is 4 and 3rd lucky number is 33 and 4th lucky number is 34 and so on. Note that 13, 40 etc., are not lucky as they have other numbers in it.

The program should accept a number 'n' as input and display the nth lucky number as output.

Sample Input 1:

3

Sample Output 1:

33

Explanation:

Here the lucky numbers are 3, 4, 33, 34, and the 3rd lucky number is 33.

Sample Input 2:

34

Sample Output 2:

33344

Coding and output:



33344

Answer: (penalty regime: 0 %)

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     scanf("%d", &n);
6
7     int c=0;
8     int num=0;
9     while (c != n) {
10         int temp = ++num, is_lucky = 1;
11
12         do {
13             int digit = temp%10;
14             if(digit != 3 && digit != 4) {
15                 is_lucky = 0;
16                 break;
17             }
18             temp /= 10;
19         } while (temp != 0);
20
21         if (is_lucky) {
22             c++;
23         }
24     }
25     printf("%d", num);
26     return 0;
27 }
```

	Input	Expected	Got	
✓	34	33344	33344	✓

Passed all tests! ✓

