GE23131-Programming Using C-2025

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Question **1**

Correct

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 != 1^3 + 2^3 + 3^3 = 36.

Example 3:

Input:

1634

Output:

true

Note:

1 <= N <= 10^8

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>
#include<math.h>
int main(){
    long long int n,rem,sum=0,temp;
    scanf("%lld",&n);
    int count;
    temp=n;
    for(count=0;temp>0;count++){
        temp/=10;
    }
    temp=n;
    while(temp>0){
        rem=temp%10;
        temp/=10;
        sum+=pow(rem,count);
    }
    if(n==sum){
        printf("true");
    }else{
        printf("false");
    }


    return 0;
}
```

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

Passed all tests! ✓

Question **2**

Correct

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

For example:

Input	Result
32	55
1234	5555

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>

int main(){
    long long int num,rev,temp,rem;
    int done=0;
    scanf("%lld",&num);
    while(done==0){
        temp=num;
        rev=0;
        while(temp>0){
            rem=temp%10;
            rev=rev*10+rem;
            temp/=10;
        }
        if(num==rev){
            done=1;
        }else{
            num=num+rev;
        }
    }
    printf("%lld\n",num);

    return 0;
}
```

	Input	Expected	Got	
✓	32	55	55	✓
✓	1234	5555	5555	✓

Passed all tests! ✓

Question **3**

Correct

Flag question

Maya, a student in an arts and crafts class, wants to create a pattern using stars (*) in a specific format. She plans to use a program to help her construct the pattern.
Write a program that takes an integer as input and constructs the following pattern using nested for loops.

Input: 5

Output:

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

Answer: (penalty regime: 0 %)

```c
#include<stdio.h>

int main(){
    int n;
    scanf("%d",&n);

    for(int i=1;i<=n;i++){
        for(int j=1;j<=i;j++){
            printf("* ");
        }
        printf("\n");
    }
    for(int i=n-1;i>=1;i--){
        for(int j=1;j<=i;j++){
            printf("* ");
        }
        printf("\n");
    }


    return 0;
}
```

	Input	Expected	Got	
✓	5	* * * * * * * * * * * * * * * * * * * * * * * * *	* * * * * * * * * * * * * * * * * * * * * * * * *	✓

Passed all tests! ✓

Finish review