Status	Finished
Started	Monday, 3 November 2025, 8:58 AM
Completed	Monday, 3 November 2025, 9:58 AM
Duration	1 hour

Question **1**

Correct

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 %)

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

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

Passed all tests! ✓

Question **2**

Correct

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 %)

```
#include<stdio.h>
int main() {
    long long int num,sum,revnum,tempsum;
    scanf("%lld",&num);
    while(1)
    {
        revnum=0;
        long long int temp=num;
        while(temp>0)
        {
            revnum=revnum*10+(temp%10);
            temp=temp/10;
        }
        sum=num+revnum;
        tempsum=sum;
        revnum=0;
        while(sum)
        {
            revnum=revnum*10+(sum%10);
            sum=sum/10;
        }
        }
        if(tempsum==revnum)
        break;
        num=tempsum;
    }
    printf("%lld",tempsum);
    return 0;
}
```

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

Passed all tests! ✓

Question **3**

Correct

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! ✓