Week 5 - 2

Nested Loops - while and for, Jumps in Loops

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Attempt 2			
Status	Finished		
Started	Saturday, 11 January 2025, 7:30 PM		
Completed	Saturday, 11 January 2025, 7:39 PM		
Duration	9 mins 14 secs		

Problem 1: 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.

Note: 1 <= N <= 10^8

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

Sample Input:

153

Sample Output:

true

Sample Input:

123

Sample Output:

false

Sample Input:

1634

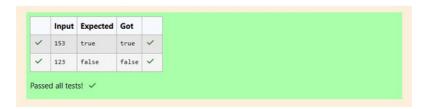
Sample Output:

true

Code:

```
1 #include<stdio.h>
    #include<math.h>
    int main()
        int n;
scanf("%d",&n);
        int x=0,n2=n;
        while(n2!-0)
10
            n2=n2/10;
11
12
13
15
        int n3=n,n4;
16
17
        while(n3!-0)
            n4=n3%10;
18
            sum= sum+pow(n4,x);
20
21
22
            n3=n3/10;
23
        if(n--sum)
24
            printf("true");
25
26
27
        else
28
            printf("false");
29
```

OUTPUT:

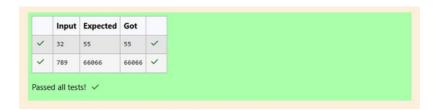


Problem 2: Take a number, reverse it and add it to the original number until the obtained number is a palindrome.

Sample Output 2 66066 **Code:**

```
1 #include<stdio.h>
2 int main()
 4
         int rn, n,nt=0,i=0;
scanf("%d",&n);
         do{
             nt-n;rn-0;
              while(n!=0)
                  rn=rn*10 + n%10;
10
                  n=n/10;
13
14
              n-nt+rn;
15
             i++;
16
17
         while(rn!-nt || i--1);
         printf("%d",rn);
19 20 }
         return θ;
```

OUTPUT:



Problem 3: 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

Code:

OUTPUT:

