

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


### [Week-05-02-Practice Session-Coding](#)

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.

### SOURCE CODE

```

1 #include<stdio.h>
2 int main()
3 {
4     int a,b=0,c,e=0;
5     scanf("%d",&a);
6     if(a<0)
7         a=-a;
8     c=a;
9     while(c!=0)
10    {
11        c/=10;
12        e++;
13    }
14    c=a;
15    while(c!=0)
16    {
17        int d=c%10;
18        int f=1;
19        for(int i=0;i<e;i++)
20        {
21            f*=d;
22        }
23        b+=f;
24        c/=10;
25    }
26    if(a==b)
27    {
28        printf("true");
29    }
30    else
31    {
32        printf("false");
33    }
34 }

```

## Output

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

Passed all tests! ✓

Question 2

Correct

Marked out of

5.00

Take a number, reverse it and add it to the original number until the obtained number is a palindrome. Constraints  $1 \leq \text{num} \leq 999999999$  Sample Input 1 32 Sample Output 1 55 Sample

Input 2 789 Sample Output 2 66066

Answer: (penalty regime: 0 %)

## SOURCE CODE

```
1 #include<stdio.h>
2 int main()
3 {
4     int rn,n,nt=0,i=0;
5     scanf("%d",&n);
6     do{
7         nt=n;rn=0;
8         while(n!=0){
9             rn=rn*10+n%10;
10            n=n/10;
11        }
12        n=nt+rn;
13        i++;
14    }
15    while(rn!=nt || i==1);
16    printf("%d",rn);
17    return 0;
18 }
```

## Result

|   | 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.

## SOURCE CODE

```
1 #include<stdio.h>
2 int con(int a){
3     int c=a;
4     while(c!=0)
5     {
6         int d=c%10;
7         if(d!=3&&d!=4)return 0;
8         c/=10;
9     }
10    return 1;
11 }
12 int main(){
13     int a,b=0;
14     scanf("%d",&a);
15     while(a!=0){
16         b++;
17         if(con(b)){
18             a--;
19         }
20     }
21     printf("%d",b);
22 }
```

RESULT

|   | Input | Expected | Got   |   |
|---|-------|----------|-------|---|
| ✓ | 34    | 33344    | 33344 | ✓ |

Passed all tests! ✓