

## Answer on Question#37471 - Programming, C++

### 1. Exercise 2: Narcissistic Number

A narcissistic number is a positive integer which is equal to its digits sum raised to the number of digits in the integer. For example the integer 153 has three digits, then  $1^3 + 5^3 + 3^3 = 1 + 125 + 27 = 153$  and so 153 is a narcissistic number, while 351 is  $3^3 + 5^3 + 1^3 = 27 + 125 + 1 = 153 \neq 351$ .

The numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 407, 1634, 8208, 24678051 are all narcissistic numbers.

Define the function: `bool isNarcissistic(int)`

Write a main function on which reads a positive integer, calls the function `isNarcissistic( )`, and prints whether the integer is a narcissistic number or not.

### Solution.

```
#include <iostream>
#include <cmath>

using namespace std;

bool isNarcissistic(int n)
{
    int b,buf=0;
    int iSave=n;

    int i=0;
    while(n>0)
    {
        b=n%10;
        n/=10;
        i++;
    }
    n=iSave;
    while(n>0)
    {
        b=n%10;
        n/=10;
        buf+=(int)pow(b,i);
    }

    if(iSave==buf){return true;}
    else{return false;}
}

int main(int argc, char * argv[])
{
    int n;
    cout<<"Enter the number:"<<endl;
    cin>>n;

    if(isNarcissistic(n))
        {cout<<"This number is a narcissist!"<<endl;}
    else
```

```
{cout<<"This number is not a narcissistic!"<<endl;}
```

```
system("pause");  
return 0;
```

```
}
```