```
#include <iostream>
#include <cmath>
using namespace std;
class Demo
{
   int number;
   void readNo() {
      cout<<"Enter a number ";
      cin>>number;

   }
public:
   Demo() {
      readNo();
   }
   int factorial() {
      int fact=1;
      for (int i=1; i<=number; i++) {
         fact*=i;
      }
      return fact;

   }
   int reverseNo() {
      int reversed=0;
      int temp=number;
```

```
    while (temp>0) {
    reversed=reversed*10+(temp%10);
    temp/=10;
    }
    return reversed;

}
bool isPalindrome() {
    return number==reverseNo();
}

bool isArmstrong() {
    int sum=0, temp=number, digits=0;
    while (temp>0) {
        digits++;
        temp/=10;
    }
    temp=number;
    while (temp>0) {
        int digit=temp%10;
        sum+=pow(digit,digits);
        temp/=10;
    }
    return sum==number;
}
void displayresults() {
```

```
        cout<<"Factorial of "<<number<<" is: "<<factorial()<<endl;
        cout<<"Reverse of "<<number<<" is: "<<reverseNo()<<endl;
        cout<<"is "<<number<<" a palindrome: "<<isPalindrome()<<endl;
        cout<<"is "<<number<<" an armstrong number: "<<(isArmstrong() ? "Yes" : "No") << endl;
    }
};
int main() {
    Demo demo;
    demo.displayresults();
    return 0;

}
```

Output:

```
Enter a number 10
Factorial of 10 is: 3628800
Reverse of 10 is: 1
is 10 a palindrome: 0
is 10 an armstrong number: No
```