

Leetcode Problem Solving

1) Question 1: (Leetcode 7)

Write a program to reverse an integer.

Solution:

```
int Reverse(int n){
    int ans = 0;
    while(n!=0){
        int lastDigit = n%10;
        if(ans>(INT16_MAX/10)||ans<(INT16_MIN/10)){
            return 0;
        }
        ans = (ans*10) + lastDigit;
        n = n/10;
    }
    return ans;
}
```

2) Question 2: (Leetcode 231)

Write a program to check if a number is power of 2 or not.

Solution:

```
bool PowerofTwo(int n){
    for(int i=0; i<=n; i++){
        int ans = pow(2,i);
        if(ans==n){
            return true;
        }
    }
    return false;
}
```

3) Question 3: (Leetcode 1009)

Write a program to find bitwise complement (Complement of Base 10 Integer).

Approach:

$h=7 \rightarrow 111 (7)$
 \downarrow
 $000 \rightarrow (0)$

Approach-

$h=5 \quad 000 \dots 0101$

$\sim h = \sim 5 \quad 111 \dots 1010$

Ignore

Mask = & $\begin{array}{r} 000 \dots 0111 \\ \hline 000 \dots 0010 \end{array} (2)$

Left Shift- $000 \dots 000$

$(h \ll 1) | 1 \quad 000 \dots 001$

$(h \ll 1) | 1 \quad 000 \dots 011$

$(h \ll 1) | 1 \quad 000 \dots 111$

Solution:

```
int BitwiseComplement(int n){
    int m = n;
    int mask = 0;
    if (n == 0){
        return 0;
    }
    while (m != 0){
        mask = (mask << 1) | 1;
        m = m >> 1;
    }
    return (~n) & mask;
}
```

