

# Roman to integer

## Approach :

If a smaller roman number is in front of larger roman number then we subtract the value from larger to smaller else we add both values. Use a map to store all the roman number as key and integer value as values.

## Code :

```
int romanToInt(string s) {
    // Write your code here
    map<char,int> m;
    m['I']=1;
    m['V']=5;
    m['X']=10;
    m['L']=50;
    m['C']=100;
    m['D']=500;
    m['M']=1000;
    int ans=0;
    if(s.size()>=1)
    {
        ans=m[s[0]];
    }
    for(int i=1;i<s.size();i++)
    {
        if(m[s[i]]>m[s[i-1]])
        {
            ans=(ans-m[s[i-1]])+(m[s[i]]-m[s[i-1]]);
        }
        else{
            ans+=m[s[i]];
        }
    }
    return ans;
}
```

- Time Complexity :  $O(N)$
- Space Complexity :  $O(N)$