

# Day 81/180 Time and Space Complexity in Recursion

Calculate the time and space complexity of each program

1:

```
int fact(int n)
{
    if(n<=1)
        return 1;

    return n*fact(n-1);
}
```

2:

```
int power(int base, int exponent) {
    if (exponent == 0)
        return 1;
    return base * power(base, exponent - 1);
}
```

3:

```
bool isPalindrome(string str, int start, int end) {
    if (start >= end)
        return true;
    return (str[start] == str[end]) && isPalindrome(str, start + 1, end - 1);
}
```

4:

```
void reverseString(string& str, int start, int end) {
    if (start < end) {
        swap(str[start], str[end]);
        reverseString(str, start + 1, end - 1);
    }
}
```

```
}  
}
```

5:

```
bool isEven(int n) {  
    if (n == 0)  
        return true;  
    return !isEven(n - 1);  
}
```