**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);

}