**Some useful recursive functions**

//Recursive factorial function

long long factorial(int n)

{

if (n == 0) //trivial case

return 1;

else

return n \* factorial(n-1);

}

//Recursive Fibonacci function

long long fibonacci(int n)

{

if (n == 0 || n == 1)

return n;

else

return fibonacci(n - 1) + fibonacci(n - 2);

}

//Recursive multiplication function

int multiply(int a, int b)

{

if (b == 1)

return a;

else

return a + multiply(a, b - 1);

}

//Recursive string reverse function

string reverse(string str)

{

int length = str.length();

if (length == 0)

return "";

else

return str.substr(length-1, 1) + reverse(str.substr(0, length-1));

}