**K-th Permutation Sequence**

string kthPermutation(int n, int k) {

int factorial = 1;

vector<int> numbers;

for(int i = 1; i < n; i++){

factorial = factorial \* i;

numbers.push\_back(i);

}

numbers.push\_back(n);

k = k - 1;

string permutation = "";

while(true){

permutation = permutation + to\_string(numbers[k/factorial]);

numbers.erase(numbers.begin() + k/factorial);

if(numbers.size() == 0){

break;

}

k = k%factorial;

factorial = factorial/numbers.size();

}

return permutation;

}