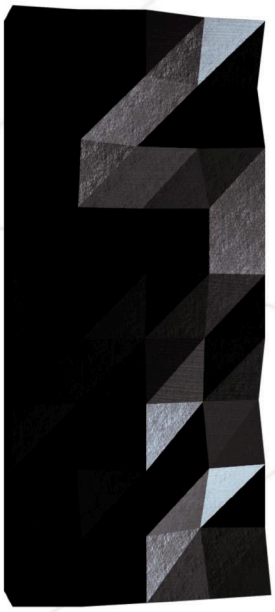

Dash – Problem solving_01

Summary: this document is the subject for the dash @ 42Seoul.

Contents

Chapter 1

Foreword

This project focuses on solving problems and aims to develop a diverse perspective on problems.

In this project, you will learn how to design recursive functions and depth first search (DFS).

Chapter 2

Objective

```
int main() {
  for (int idx_1 = 0; idx_1 < n; ++idx_1) {
    ...
    for (int idx_2 = 0; idx_2 < n; ++idx_2) {
      ...
      for (int idx_3 = 0; idx_3 < n; ++idx_3) {
        ...
        for (int idx_4 = 0; idx_4 < n; ++idx_4) {
          ...
          for (int idx_5 = 0; idx_5 < n; ++idx_5) {
            ...
            for (int idx_6 = 0; idx_6 < n; ++idx_6) {
              ...
              for (int idx_7 = 0; idx_7 < n; ++idx_7) {
                ...
                for (int idx_8 = 0; idx_8 < n; ++idx_8) {
                  ...
                  for (int idx_9 = 0; idx_9 < n; ++idx_9) {
                    ...
                  }
                }
              }
            }
          }
        }
      }
    }
  }
}
```

Is this code wise?..? 🤔🤔🤔🤔🤔
Expand your thinking! If you understand the depth, add depth to the depth. 🤣🤣

Chapter 3

Instructions

- Include -Wall -Wextra -Werror for build options.
- I recommend using global variables
- There are limitations for each problem, so please read RedBox carefully.
- We don't keep norm.
- <stdio.h> is available.

Chapter 4

Exercise 00 : permutation

	Exercise 00
permutation	
Turn-in directory : ex00/	
Files to turn in : permutation.c	
Allowed function : write	

Given N and M, write a program to find all sequences of length M that satisfy the conditions.

From 1 to N, M selected sequences may be selected several times.

1 <= M <= N <= 6

Input:

4 3

Output:

```
111
112
113
114
122
123
124
133
134
144
222
223
224
233
234
244
333
334
344
444
```

Chapter 5

Exercise 01 : more permutation

	Exercise 01
more permutation	
Turn-in directory : ex01/	
Files to turn in : more_permutation.c	
Allowed function : write	

Given N and M, write a program to find all sequences of length M that satisfy the conditions.

From 1 to N, M selected sequences may be selected several times.

1 <= M <= N <= 6

Input:

3 3

Output:

111	211	311
112	212	312
113	213	313
121	221	321
122	222	322
123	223	323
131	231	331
132	232	332
133	233	333

Chapter 6

Exercise 02 : much more permutation

	Exercise 02
much more permutation	
Turn-in directory : ex02/	
Files to turn in : much_more_permutation.c	
Allowed function : write	

Given N and M, write a program to find all sequences of length M that satisfy the conditions.

A sequence of M from 1 to N should be output in ascending order.

1 <= M <= N <= 6

Input :

6 3

Output:

123	146	345
124	156	346
125	234	356
126	235	456
134	236	
135	245	
136	246	
145	256	

Chapter 7

Exercise 03 : even more permutation

	Exercise 03
even more permutation	
Turn-in directory : ex03/	
Files to turn in : even_more_permutation.c	
Allowed function : write	

Given N and M, write a program to find all sequences of length M that satisfy the conditions.

A sequence of M from 1 to N should be output in ascending order.

1 <= M <= N <= 6

Input :

6 3

Output:

123	146	345
124	156	346
125	234	356
126	235	456
134	236	
135	245	
136	246	
145	256	