

SE 1105 PROGRAMMING AND PROBLEM SOLVING I

Section 4-5-6

WEEK 9 24.11.2025

Task 1: The Pattern Engine

- The campus print-shop needs 3 different textile patterns.
- All patterns are printed with ordinary characters and must work for any height ≥ 3 .

- /* 1. solid triangle of chosen char

height 4 \rightarrow 1+2+3+4 chars per line, aligned left */

void solid_triangle(int height);

/* 2. hollow triangle (only borders)

height 4 \rightarrow line 1: 1 char, last line: full, middle lines: left & right chars */

void hollow_triangle(int height);

/* 3. number pyramid (digits 1..height)

height 4 \rightarrow line 1: 1, line 2: 1 2, line 3: 1 2 3, line 4: 1 2 3 4 */

void number_pyramid(int height);

- Example:

Height (≥ 3): 4

Symbol: #

Solid triangle:

#

##

###

####

Hollow triangle:

#

##

#

####

Number pyramid:

1

1 2

1 2 3

1 2 3 4