

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
```