CPSC 457 — Fall 2025 | Assignment 1 — Part I

Group Members:

   Name: <Your Name Here>   UCID: <Your Student ID>

   (Add additional members if applicable)

Git Repository URL:

   https://example.com/your-repo.git   (replace with your real repo URL)

Reflection (Part I):

The most challenging part was coordinating 100 child processes cleanly while abiding by the

constraint to communicate only via exit() and wait(). Exit codes are limited to 8 bits, so we

cannot directly return a 0–999 column index from a child. I addressed this by having each child

exit with a simple success/fail code. The parent then maps the winning PID back to its row and

rescans that row in memory to compute the exact column index deterministically. This keeps the

design simple and avoids shared memory entirely. I also ensured all children terminate and are

reaped to avoid zombies or server overload, using _exit(...) in children and wait(...) in the parent.