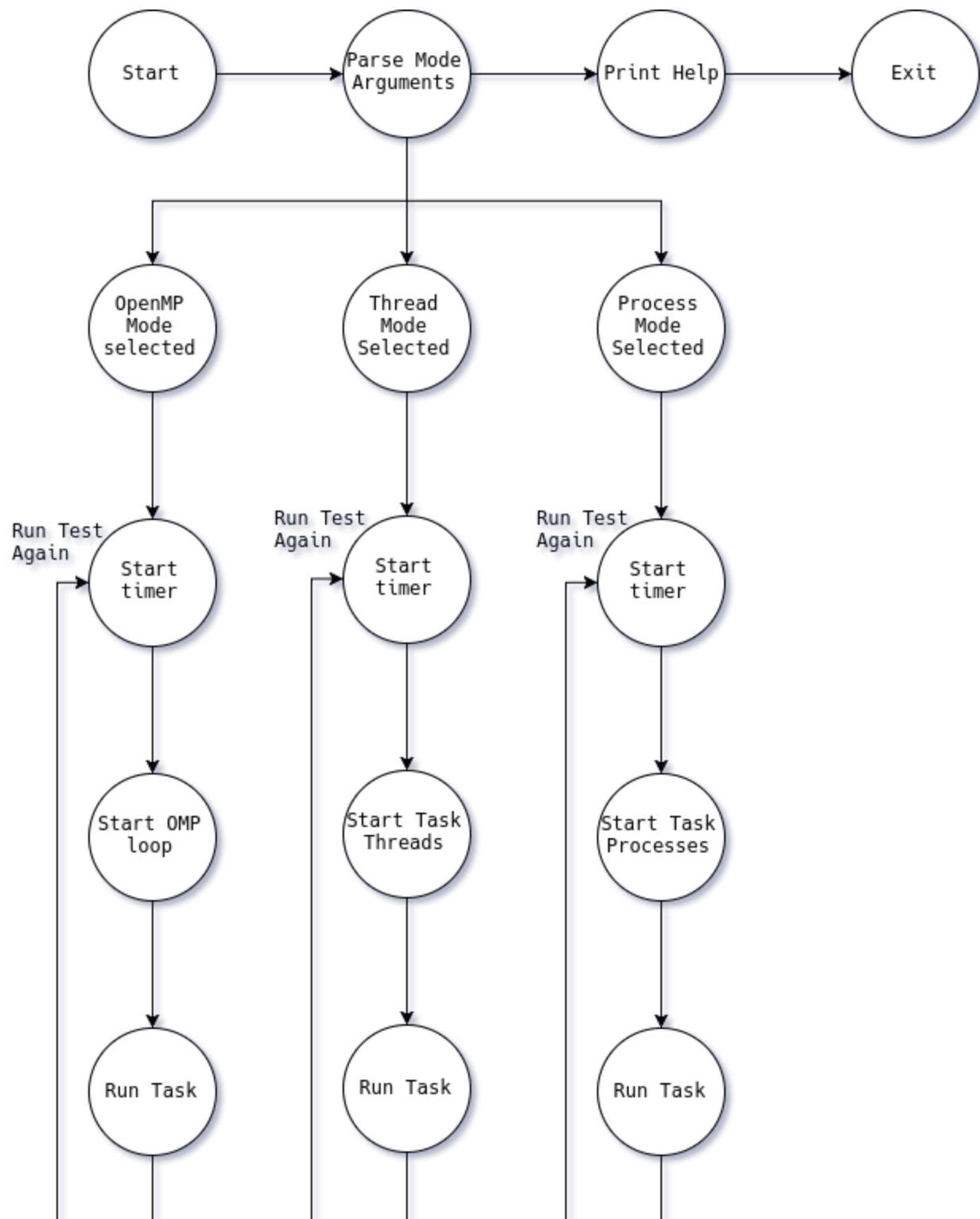


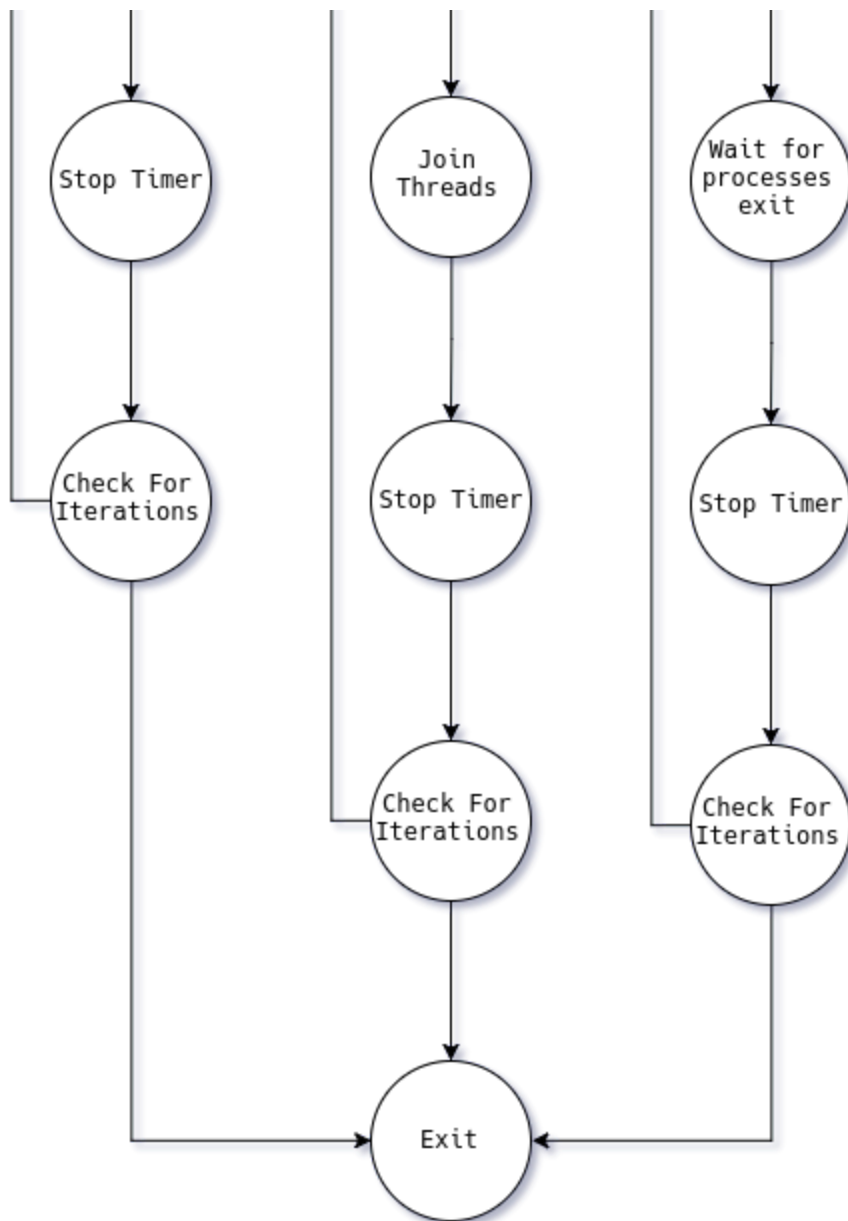
8005 Asn1 - Design

Thoughts for threads, a happy programmer make
Isaac Morneau; A00958405

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FSM





Pseudocode

Start

Initialize program states

Goto Parse Mode Arguments

Parse Mode Arguments

Check mode

If no mode is selected

Goto Print Help

If OpenMP is selected

Goto OpenMP Mode Selected

If Thread is selected

Goto Thread Mode Selected

If process is selected

Goto Process Mode Selected

Print Help

Print a message showing usage

Goto Exit

OpenMP Mode Selected

Repeat for each iteration requested

Call Start Timer

Call Start OMP loop

Call Run Task

Call Stop timer

Goto Exit

Thread Mode Selected

Repeat for each iteration requested

Call Start Timer

Call Start Task Threads

Call Join Task Threads

Call Stop timer

Goto Exit

Process Mode Selected

Repeat for each iteration requested

Call Start Timer

Call Start Task Processes

Call wait for Processes exit

Call Stop timer

Goto Exit

Start Timer

Initialize timer variables

Start OMP Loop

Initialize omp loop for next scope

Start Task Threads

Initialize threads

On each thread

Call Run Task

Start Task Processes

Initialize processes

On each process

Call Run Task

Join Task Threads

Wait for all threads to complete and return

Wait for Processes exit

Wait for all processes to complete and return

Stop Timer

Calculate time from the last start timer call

Exit

Cleanup variables and quit the program