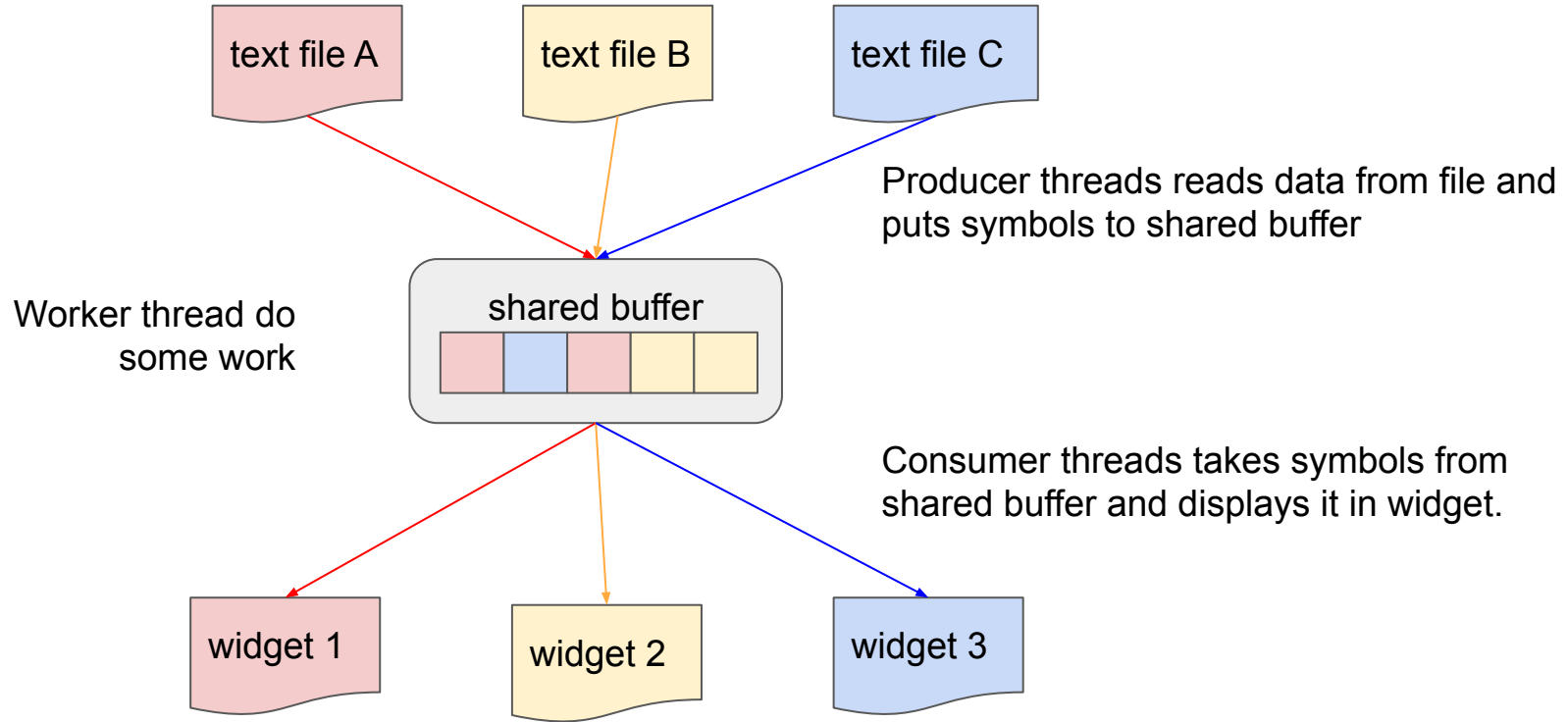


Assignment 2



Assignment 2

Create multithreading app to read data from three text files (A,B,C) and modifying data simultaneously using a shared buffer with a visual representation of process:

- “Produser” thread takes symbols consistently from text file and writes it to buffer
 - to empty position only, avoid to overwrite existing symbol
- “Worker” thread modify symbol in buffer by do calculation
 - cycle 100 million operations -> change case (upper to lower and vice versa)
- “Consumer”(UI) thread:
 - select text files using the file dialog
 - a field to adjust the buffer size (5 symbols default)
 - real-time representation of buffer content, progress of data processing (copied/total symbols).
 - coloured symbol affinity (to source file)
 - real-time display modified data in widgets
- Multithreading:
 - threadsafe buffer
 - avoid blocking and data corruption
 - use semaphore to synchronize producer and consumer threads
 - use mutex to synchronize worker thread