Message Queue Project Report

Software Description:

The goal of this project is to design 5 programs that are capable of communicating with each other using the built in message queue structure. The 5 programs are split between three Senders (251, 257, and 997) and two receivers (1 and 2) which contain their own set of rules to determine how they behave. Each of the Senders must have a 32 bit random number generator that controls when they should send a message. In our case, the messages are sent every time the random number generated mod the Sender ID is 0.

Sender 251 must only send a message to a single receiver and must terminate from a kill command that was given from a separate terminal. Sender 257 also only notifies a single receiver and must terminate when its receiver terminates. Sender 997 terminates if it creates a random number that is less than 100 and sends messages to both receivers but must receive an acknowledgement from both receivers before it continues with its execution.

Both Receivers display a message that was received from the Sender repeatedly along with the Sender’s ID. Receiver 1 only accepts messages from Senders 251 and 997 and terminates if both of its Senders have terminated while Receiver 2 only accepts messages from Senders 257 and 997 while terminating once it has received more than 5000 messages.

Critique: