Welcome to CSCI 4061
Today

- Message Passing
  - msgget()
  - msgsnd()
  - msgrcv()
  - msgctl()

- Project 2
Message Queue

- Create/connect to a message queue
  - int msgget(key_t key, int msgflg)
  - key is a system-wide unique identifier
  - msgflg tells msgget() what to do with the queue
  - msgid = msgget(key, 0666 | IPC_CREAT)
Message Queue

- Sending to the queue
  - struct msgbuf {
    long mtype;
    char mtext[100];
  };
  - int msgsnd(int msqid, const void *msgp, size_t msgsz, int msgflg);
    - msqid is the id of the queue
    - msgp is a pointer to the message
    - msgsz is the actual size of the message
    - msgflg indicates other options, you can set it to 0
Message Queue

- Receiving from the queue
  - `int msgrcv(int msqid, void *msgp, size_t msgsz, long msgtyp, int msgflg)`
  - `msgp` is the buffer to store the message
  - `msgsz` is the size of the message
  - `msgtyp` is used to identify which message to receive
  - `msgflg` indicates other options, you can set it to 0
Message Queue

- Destroying a message queue
  - #include <sys/msg.h>

    msgctl(msqid, IPC_RMID, NULL);

    You can destroy the IPC by ipcrm command.
Message Queue Example

- Sending messages (Sender)
  - Set up the message queue
  - Read content from the stdin line by line
  - Write them into the message queue

- Receiving messages (Receiver)
  - Connect to the message queue
  - Read message from the queue
  - Print them out
Project 2

- Any question about project 2?
- Spend rest of time for the project 2.
Questions?