Test Cases

1. IGCreate:
2. Normal case:
   1. IGCreate(0)

(Lookup)

Expect:

Result:

1. Failure case:
   1. IGCreate(0) //again with the same group id

Expect: error message.

Result: “Failed to create a group.”

* 1. Use a loop to create more than 21 groups //we only support at most 20 interest groups

Expect: error message.

Result: "Failed to create a group at creating group 21.

1. IGPublisher:
2. Normal case:
   1. IGPublisher(0)

Expect: declare this running process as a publisher of interest group 0.

Result: this running process is a publisher of interest group 0.

* 1. Pid=fork(); //another process, P2

If(pid != 0){

IGPublihser(0);

IGPublihser(1);

}

Expect: declare this running child process as a publisher of interest group 0 and group 1.

Result: this running child process is a publisher of interest group 0 and group 1.

1. IGSubscriber:
2. Normal case:
   1. IGPublisher(0)

Expect: declare this running process as a subscriber of interest group0.

Result: this running process is a subscriber of interest group0.

* 1. Pid=fork();

If(pid != 0){

IGSubscriber(0);

IGSubscriber(1);

}

Expect: declare this running child process as a subscriber of interest group 0 and group 1.

Result: this running child process is a subscriber of interest group 0 and group 1.

1. IGPublish:
2. Normal case:
   1. IGPublish(0, "How are you?"); //Process 1, a publisher of group 0

IGPublish(0, "How are you?"); //Process 2, a publisher of group 0

IGPublish(1, "How are you?"); //Process 2, a subscriber of group 1

Expect: both process 1 and 2 send messages to group 0, and process 2 sends one message to group 1.

Result: messages have been sent

1. Special case:
   1. for(int I = 0; I < 6; i++)

IGPublish(0, "How are you?"); //Process 1, a publisher of group 0

Expect: print out “fail to publish the message”

Result: print out “fail to publish the message”

b) IGPublish(0, "How are you?"); //Process 1, not a publisher of group 0

Expect: print out “fail to publish the message”

Result: print out “fail to publish the message”

1. IGSubscribe:
   1. IGSubscribe(0) //Process 1, a subscriber of group 0

IGSubscribe(0) //Process 2, a subscriber of group 0

IGSubscribe(1) //Process 2, a subscriber of group 1

Expect: p1 retrieves message from group 0, p2 retrieves message from group 0, p2 retrieves message from group 1

Result: the messages are printed out.

* 1. Retrieve messages when the buffer is empty

Expect: error message

Result:

* 1. IGSubscribe(0) //Process 1, not a subscriber of group 0

Expect: error message

Result: