

The Hungry Birds

Given there are n baby birds and one parent bird. The baby birds eat out of a common dish that initially contains F portions of food. Each baby repeatedly eats one portion of food at a time, sleeps for a while, and then comes back to eat. When the dish becomes empty, the baby bird who empties the dish awakens the parent bird. The parent refills the dish with F portions, then waits for the dish to become empty again. This pattern repeats forever.

Represent the birds as processes and develop code that simulates their actions. Use binary semaphores for synchronization. (Yes, this problem is similar to the *Bear and the Honeybees*. Both problems are colorful variants of Producer/Consumer scenarios, each with a different twist.)