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/* program Project2 (Post Office Simulator) */
semaphore inside = 10;
semaphore workers = 3, coord = 3;
semaphore mutex = 1, mutex2 = 1;
semaphore scale = 1;
semaphore custReady = 0, leaveWorker = 0, assignWorker = 0, custAskedWorker = 0;;
semaphore finished[50] = {0}
int max_customers = 50, max_workers = 3;
Customer customersInfo[50];
Queue<Integer> queueCust;

```

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void PostalWorker ()
{
    int workerNum;
    int currentCustomer;
    String task = "";

    while(true) {
        wait(custReady);
        wait(mutex);
        dequeue(currentCustomer);
        print(); // worker serving customer
        setWorker(workerNum);
        signal(assignWorker);
        signal(mutex);
        wait(coord);
        wait(custAskedWorker);
        getTask();
        taskPerformed(task);
        signal(coord);
        signal(finished[currentCustomer]);
        wait(leaveWorker);
        signal(workers);
    }
}

```

```

void Customer ()
{
    int customerNum;
    String taskOfCust = "";
    int currentWorker;

    Customer(customerNum) {
        wait(mutex2);
        // create customer
        setTask();
        signal(mutex2);
    }
}

```

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    }

    wait(inside);
    print(); // enter post officer
    wait(mutex);
    enqueue(customerNum);
    signal(custReady);
    signal(mutex);
    wait(assignWorker);
    print(); // ask worker for help with task
    signal(custAskedWorker);
    wait(finished[currentCustomer]);
    print(); // customer completes task
    signal(leaveWorker);
    print(); // print customer left
    signal(inside);
}

void main ()
{
    count = 0;
    parbegin (customer, . . . 50 times, . . . customer, worker, worker, worker, customer);
}

```