```
type task = (double left, right, fleft, fright, lrarea);
queue bag(task);        # the bag of tasks
int size;               # number of tasks in bag
int idle = 0;           # number of idle workers
double total = 0.0;     # the total area

compute approximate area from a to b;
insert task (a, b, f(a), f(b), area) in the bag;
count = 1;

process Worker[w = 1 to PR] {
  double left, right, fleft, fright, lrarea;
  double mid, fmid, larea, rarea;
  while (true) {
    # check for termination
    ⟨ idle++;
      if (idle == n && size == 0) break; ⟩
    # get a task from the bag
    ⟨ await (size > 0)
      remove a task from the bag;
      size--; idle--; ⟩
    mid = (left+right) / 2;
    fmid = f(mid);
    larea = (fleft+fmid) * (mid-left) / 2;
    rarea = (fmid+fright) * (right-mid) / 2;
    if (abs((larea+rarea) - lrarea) > EPSILON) {
      ⟨ put (left, mid, fleft, fmid, larea) in the bag;
        put (mid, right, fmid, fright, rarea) in the bag;
        size = size + 2; ⟩
    } else
      ⟨ total = total + lrarea; ⟩
  }
  if (w == 1)   # worker 1 prints the result
    printf("the total is %f\n", total);
}
```

Figure 3.21 Adaptive quadrature using a bag of tasks.