

```

process Worker[w = 0 to n-1] {
  double a[n], b[n], c[n]; # my row or column of each
  double temp[n];          # used to pass vectors on
  double total;            # used to compute inner product

  # receive rows of a; keep first and pass others on
  receive vector[w](a);
  for [i = w+1 to n-1] {
    receive vector[w](temp); send vector[w+1](temp);
  }

  # get columns and compute inner products
  for [j = 0 to n-1] {
    receive vector[w](b); # get a column of b
    if (w < n-1) # if not last worker, pass it on
      send vector[w+1](b);
    total = 0.0;
    for [k = 0 to n-1] # compute one inner product
      total += a[k] * b[k];
    c[j] = total; # put total into c
  }

  # send my row of c to next worker or coordinator
  if (w < n-1)
    send vector[w+1](c);
  else
    send result(c);
  # receive and pass on earlier rows of c
  for [i = 0 to w-1] {
    receive vector[w](temp);
    if (w < n-1)
      send vector[w+1](temp);
    else
      send result(temp);
  }
}

```

**Figure 9.6 (b)** Matrix multiplication pipeline: Worker processes.