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separate (Dining_Philosophers)
task body Waiter is
  entry Wait(ID);      -- used to requeue philosophers
  eating : array (ID) of Boolean; -- who is eating
  want : array (ID) of Boolean;  -- who wants to eat
  go : array(ID) of Boolean;     -- who can go now
begin
  for j in ID loop      -- initialize the arrays
    eating(j) := False; want(j) := False;
  end loop;
  loop                -- basic server loop
  select
    accept Pickup(i : in ID) do -- DP(i) needs forks
      if not(eating(left(i)) or eating(right(i))) then
        eating(i) := True;
      else
        want(i) := True; requeue Wait(i);
      end if;
    end;
  or
    accept Putdown(i : in ID) do -- DP(i) is done
      eating(i) := False;
    end;
    -- check neighbors to see if they can eat now
    if want(left(i)) and not eating(left(left(i))) then
      accept Wait(left(i));
      eating(left(i)) := True; want(left(i)) := False;
    end if;
    if want(right(i)) and not eating(right(right(i)))
      then accept Wait(right(i));
      eating(right(i)) := True; want(right(i)) := False;
    end if;
  or
    terminate; -- quit when philosophers have quit
  end select;
  end loop;
end Waiter;

```

Figure 8.19 Dining philosophers in Ada: Waiter task.