

CHALMERS

Example: resource handler

Problem: Write a protected object `One_Resource` that handles an exclusive resource.

- The protected object should have two entries, `Acquire` and `Release`.
- Via entry `Acquire` a task should be able to request access to the resource. If the resource is already being used, the task calling `Acquire` should be blocked.
- Via entry `Release` a task should be able to notify that it no longer needs the resource.

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Resource handler for one resource

```
protected type One_Resource is
  entry Acquire;
  procedure Release;
private
  Busy : Boolean := false;
end One_Resource;

protected body One_Resource is
  entry Acquire when not Busy is
  begin
    Busy := true;
  end Acquire;
  procedure Release is
  begin
    Busy := false;
  end Release;
end One_Resource;
```

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Resource handler for one resource

```
..
..
R : One_Resource;      -- instance of the resource
task User1, User2;    -- tasks using the resource
task body User1 is
begin
  ..
  R.Acquire;
  ..
  R.Release;          -- statements using the resource
end User1;
task body User2 is
begin
  ..
  R.Acquire;
  ..
  R.Release;          -- statements using the resource
end User2;
```