```
using Gridap
using GridapDistributed
using PartitionedArrays

partition = (2,2)
prun(mpi,partition) do parts
  domain = (0,1,0,1)
  mesh_partition = (4,4)
  model = CartesianDiscreteModel(parts,domain,mesh_partition)
  order = 2
  u((x,y)) = (x+y)^order
  f(x) = -Δ(u,x)
  reffe = ReferenceFE(lagrangian,Float64,order)
  V = TestFESpace(model,reffe,dirichlet_tags="boundary")
  U = TrialFESpace(u,V)
  Ω = Triangulation(model)
  dΩ = Measure(Ω,2*order)
  a(u,v) = ∫( ∇(v)⋅∇(u) )dΩ
  l(v) = ∫( v*f )dΩ
  op = AffineFEOperator(a,l,U,V)
  uh = solve(op)
  writevtk(Ω,"results",cellfields=["uh"=>uh,"grad_uh"=>∇(uh)])
end
```