

function

- the constructor
- then the `problem` function
- as well as the functions `set_boundary_conditions`
- a `construct_helmholtz_equation` under `set_problem`
- all discussed before. I'll reiterate some. The constructor: We pass the element type as a template parameter to the problem constructor
- which has no arguments. The constructor creates an `H1` discretization and builds an `H1` discretization with `boundary_conditions` and `set_problem` functions. I'll
- the boundary conditions are imposed. We pass all variables and the temperature on the top and bottom walls and finally the horizontal velocity on the side walls. Since the domain is rectangular
- the pressure is only determined up to an arbitrary constant. We resolve this ambiguity by giving a single pressure value
- using the `set_problem` function. We then the boundary conditions. We pass the `problem` to the physical parameters and finally assign the equation number. We assign a `discretization` and `construct_helmholtz_equation` are passed. The function `set_boundary_conditions` is used to impose the velocity vector components and
- we impose a `Dirichlet` boundary condition that randomly generates the vertical velocity field on the upper boundary. The boundary condition is