$f(x) = g(x) + h(x)$

$g(x) = distance$ **from** $start$

$h(x) = houristic$ **for** $distance$ **to end**

variables on vertices
v. isVisited
v. lastVertex

$findPath(G, v_s, v_e, h(x, v_e))$
  $heap = new\ MinHeap()$
  $heap.\ insert(v_s)$
  $pathLengh = \infty$
  for *each* $v \in G$
    $v.\ isVisited = false$
  while $!heap.\ isEmpty()$
    $Vertex\ v = heap.\ pop()$
    for u **in** $v.\ adj$
      if $u == v_e$
        $pathLength = g(u)$
        $u.\ isVisited = true$
        $u.\ lastVertex = v$
      else if $!u.\ visited$
        $f = g(u) + h(u, v_e)$
        if $f < pathLength$
          $heap.\ insert(u)$
          $u.\ isVisited = true$
          $u.\ lastVertex = v$
  return $getRecRoute(v_e)$