```
# Pseudo code for function teamEM

# Inputs:
#   data - data frame with N observations and 3 columns: FishID, Length,  Age (k numbered groups for known, and NA for
    unknown).
#   epsilon - desired tolerance value for convergence.
#   maxit - maximum number of iterations.

# Outputs:
#   inits - dataframe with mu, sigma, lambda for k age groups.
#   posterior - posterior probabilities of N observations in k age groups.
#   estimates - new mu, sigma, lambda for k age groups.
#   converged - TRUE if convergence is met before the maximum iteration, FALSE otherwise.
#   likelihood - vector of length equals to number of iterations, maximum
#   length equals to maxit.


teamEM <- function(data, epsilon = 1e-08, maxit = 1000) {

  # 1. Initialisation
  # Assign labels to fish with latent age variables based on data from fish
  # with known age:
  # Take the the values of the probability density functions for each fish length, compare them, and assign the age groups
in
  #   accordance with the highest pdf value.
  # Take the data with the known and assigned values and calculate mean (mu), sd (sigma) for each age group.
  # Calculate probability (lambda) for a fish to be in each age group.

  # Repeating expectation, maximization and testing of convergence.
  # Create a for-loop with maximum iterations of maxit times.
  for (i in 1:maxit) {

    # 2. Expectation
    # Calculate probabilities for fish belonging to each age group given the observed lengths.
    # Use inits as a start and then use estimates from previous iterations

    # 3. Maximization
    # Calculate new estimates for mean, sd, and probability for each age group based on the posterior probabilities.

    # 4. Testing Convergence
    # Calculate the log-likelihood with parameters of this iteration.
    # If the difference between log-likelihood of this iteration and the previous is smaller than tolerance value, then
convergence is met.
    # Break the for-loop if convergent
    if (log(ith likelihood) - log((i-1)th likelihood) < epsilon)
      break.
    # If not convergent, reassign Age groups to latent variables in the dataframe the same way it has been done at the
    #   Initialisation step.
    #   Go back to the E step. Maximum amount of iterations - maxit.
  }
}
```