C++ code 5.2.54: Implementation of `tabiterr()` → GitLab

```
void tabiterr(unsigned int M, double rtol, double atol, unsigned int maxit) {
  // Start of the (half) cyloid curve (xi = 0.5)
  Eigen::Vector2d a({0.5 * M_PI - 1.0, -1.0});
  // Initialize b to agree with endpoint of cycloid curve
  Eigen::Vector2d b({M_PI, -2.});
  // Carry out the fixed-point iteration
  std::vector<Eigen::Matrix<double, 2, Eigen::Dynamic>> iterates;
  Eigen::Matrix<double, 2, Eigen::Dynamic> mu = brachistochrone(
      M, a, b, atol, rtol, maxit,
      [&iterates](const Eigen::Matrix<double, 2, Eigen::Dynamic> &mu) -> void {
        iterates.push_back(mu);
      });
  // Print table with results
  std::cout << "| k   | ||u_h^(k)-u_h^(" << iterates.size() - 1
            << ")||_{L2} |\n";
  std::cout << "-------------------------------------|\n";
  for (int i = 0; i < iterates.size() - 1; ++i) {
    std::cout << "| " << std::setw(3) << i << " | " << std::setw(26)
              << std::setprecision(5) << std::scientific
              << L2norm(iterates.at(i) - iterates.at(iterates.size() - 1))
              << " |\n";
  }
}
```