```
#include <iostream>
using namespace std;

class DiningPhilosophers {
   bool forks[5] = {false, false, false, false, false}; // Fork availability: false
= available, true = in use

public:
   void think(int philosopher) {
      cout << "Philosopher " << philosopher << " is thinking.\n";
   }

   bool pickUpForks(int philosopher) {
      int leftFork = philosopher;
      int rightFork = (philosopher + 1) % 5;

      if (!forks[leftFork] && !forks[rightFork]) { // Check if both forks are
available
         forks[leftFork] = true;
         forks[rightFork] = true;
         cout << "Philosopher " << philosopher << " picked up forks " <<
leftFork << " and " << rightFork << " and is eating.\n";
         return true;
      } else {
         cout << "Philosopher " << philosopher << " couldn't pick up forks
and is waiting.\n";
         return false;
      }
   }

   void putDownForks(int philosopher) {
      int leftFork = philosopher;
      int rightFork = (philosopher + 1) % 5;

      forks[leftFork] = false;
      forks[rightFork] = false;
      cout << "Philosopher " << philosopher << " put down forks " <<
leftFork << " and " << rightFork << ".\n";
   }
};
```

```
int main() {
   DiningPhilosophers table;
   int philosopher, choice;

   do {
      cout << "\nDining Philosophers Simulation\n";
      cout << "1. Philosopher thinks\n2. Philosopher tries to eat\n3.
Philosopher finishes eating\n4. Exit\n";
      cout << "Enter your choice: ";
      cin >> choice;

      if (choice == 4) {
         cout << "Exiting...\n";
         break;
      }

      cout << "Enter philosopher number (0-4): ";
      cin >> philosopher;

      switch (choice) {
         case 1:
            table.think(philosopher);
            break;
         case 2:
            if (!table.pickUpForks(philosopher)) {
               cout << "Philosopher " << philosopher << " couldn't start
eating as forks were unavailable.\n";
            }
            break;
         case 3:
            table.putDownForks(philosopher);
            break;
         default:
            cout << "Invalid choice!\n";
            break;
      }
   } while (choice != 4);

   return 0;
```

```
}
```