* The Dining Philosophers problem

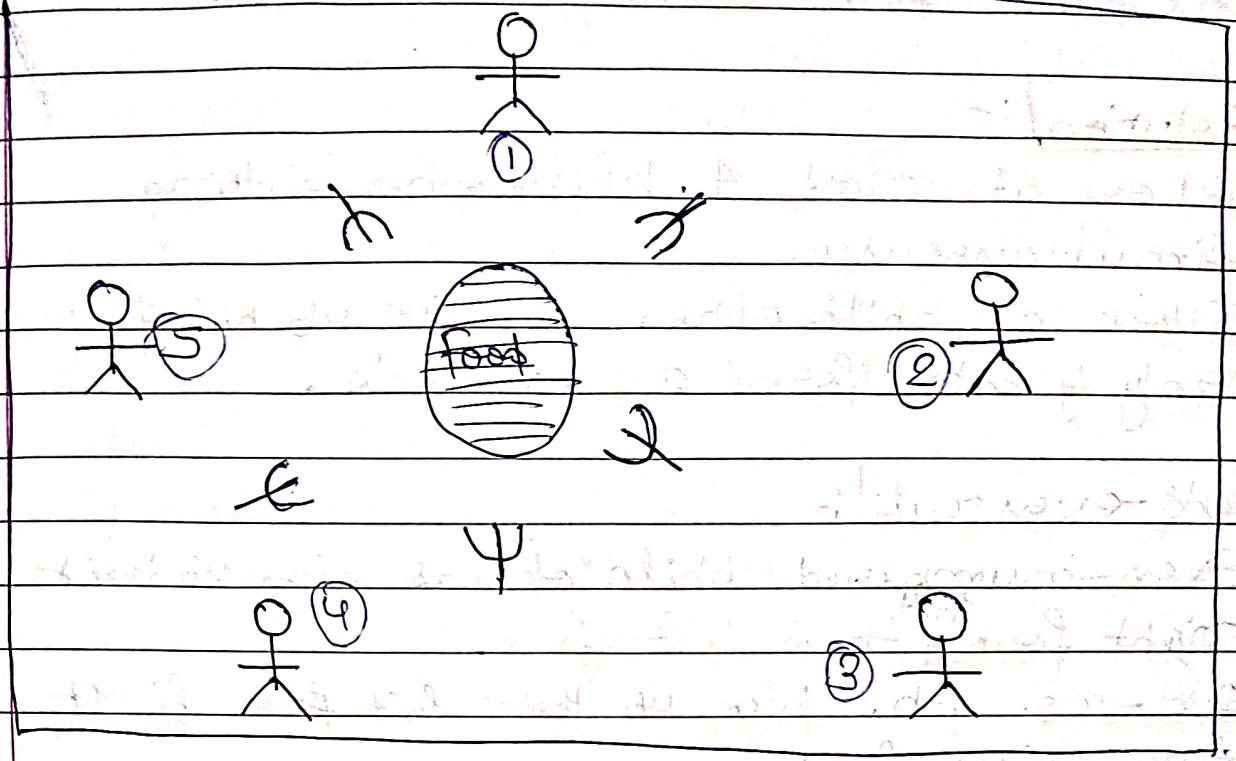

Fig 1. Dining Philosophers problem

- We have 5 philosophers who spend their time just by doing by any of two states:-
  (a) Thinking } anyone but not
  (b) Eating } both at a time
- They all sit in circular table surrounded by "5" forks, the center of the table is a bowl of noodles.
- **Thinking state**:- When a philosopher thinks, he does not interact with others.

Eating state:- When a philosopher eat, he needs 2 forks adjacent to him, if he get one fork, he will wait until he gets second fork.

- Problem :- If all goes for eating and all picks their left fork, then all wait for the other fork making an deadlock.

- Solution :-

(1) Allow at most 4 philosophers sitting simultaneously.

(2) Allow a philosopher to pick up his fork only if both forks are available.

(3) Odd-even rule :-
Even-numbered philosophers pick up their right fork first, then left fork.
Odd-no. ph. pick up their left fork first then right fork.