Government Engineering College, Thrissur

CS331 – System Software Lab

Documentation -

Exp 7 – Dining Philosopher Problem

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Experiment 7

Write a program to simulate the working of the dining philosopher’s problem

Compilation of Code

Prerequisite

- The code is provided in the **program.c** along with this documentation. You can open the terminal in Linux (Ubuntu 18.04 tested). Then run the command

  gcc program.c

  ./a.out

- We can see that program is waiting for the *number of philosophers*. We can input the number of philosophers in the console. **The number of philosophers is not limited to five. *Tested up to 10.*** Output / the simulation will be shown as soon as we press Enter key.
- Output of the code will be printed on the **console**
- **Note: Please see the output.txt file for the output I got on my machine.**
- **Note: There is no specific input file for this program**

Output / Screenshots

For the input of 5 philosophers

P . T. O (Large Image)

```
┌─hp@hp-hp ~/Documents/S5/Lab/Exp7/Uploads ‹master*›
└─$ ./a.out
Enter the number of Philosophers: 5
Philosopher 1 is thinking
Philosopher 2 is thinking
Philosopher 3 is thinking
Philosopher 4 is thinking
Philosopher 5 is thinking
Philosopher 3 is hungry
Philosopher 1 is hungry
Philosopher 5 is hungry
Philosopher 2 is hungry
Philosopher 2 takes fork 1  and 3 from table
Philosopher 2 is Eating
Philosopher 4 is hungry
Philosopher 4 takes fork 3  and 5 from table
Philosopher 4 is Eating
Philosopher 2 put fork 1 and 3 on table
Philosopher 2 thinking
Philosopher 1 takes fork 5  and 2 from table
Philosopher 1 is Eating
Philosopher 4 put fork 3 and 5 on table
Philosopher 4 thinking
Philosopher 3 takes fork 2  and 4 from table
Philosopher 3 is Eating
Philosopher 2 is hungry
Philosopher 1 put fork 5 and 2 on table
Philosopher 1 thinking
Philosopher 5 takes fork 4  and 1 from table
Philosopher 5 is Eating
Philosopher 4 is hungry
Philosopher 3 put fork 2 and 4 on table
Philosopher 3 thinking
Philosopher 2 takes fork 1  and 3 from table
Philosopher 2 is Eating
Philosopher 1 is hungry
Philosopher 5 put fork 4 and 1 on table
Philosopher 5 thinking
```