



Philosophers

I never thought philosophy would be so deadly

Summary:

*In this project, you will learn the basics of threading a process.
You will see how to create threads and you will discover mutexes.*

Version: 11

About the logs of your program:

- Any state change of a philosopher must be formatted as follows:
 - `timestamp_in_ms X has taken a fork`
 - `timestamp_in_ms X is eating`
 - `timestamp_in_ms X is sleeping`
 - `timestamp_in_ms X is thinking`
 - `timestamp_in_ms X died`

Replace `timestamp_in_ms` with the current timestamp in milliseconds and `X` with the philosopher number.

- A displayed state message should not be mixed up with another message.
- A message announcing a philosopher died should be displayed no more than 10 ms after the actual death of the philosopher.
- Again, philosophers should avoid dying!



Your program must not have any data races.

Chapter VI

Bonus part

Program name	philo_bonus
Turn in files	Makefile, *.h, *.c, in directory philo_bonus/
Makefile	NAME, all, clean, fclean, re
Arguments	number_of_philosophers time_to_die time_to_eat time_to_sleep [number_of_times_each_philosopher_must_eat]
External functs.	memset, printf, malloc, free, write, fork, kill, exit, pthread_create, pthread_detach, pthread_join, usleep, gettimeofday, waitpid, sem_open, sem_close, sem_post, sem_wait, sem_unlink
Libft authorized	No
Description	Philosophers with processes and semaphores

The program of the bonus part takes the same arguments as the mandatory program. It has to comply with the requirements of the *Global rules* chapter.

The specific rules for the bonus part are:

- All the forks are put in the middle of the table.
- They have no states in memory but the number of available forks is represented by a semaphore.
- Each philosopher should be a process. But the main process should not be a philosopher.



The bonus part will only be assessed if the mandatory part is PERFECT. Perfect means the mandatory part has been integrally done and works without malfunctioning. If you have not passed ALL the mandatory requirements, your bonus part will not be evaluated at all.

