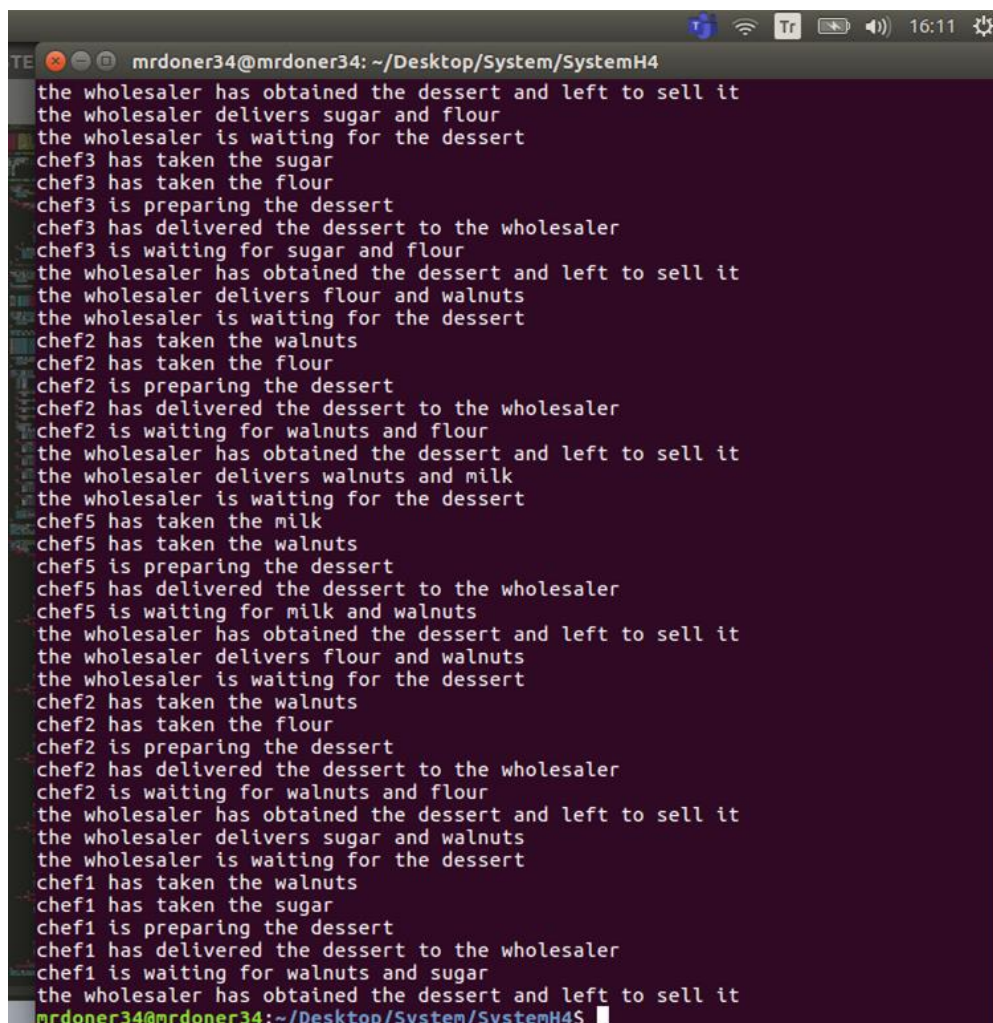


CSE 344 – SYSTEM PROGRAMMING - HW_4 REPORT

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In this homework, I used threads with semaphores. My main program was used as wholesaler thread. Earlier of the program execution, I parsed the program with getopt(). Then, initialize the semaphore and other variables. Ingredients were delivered to array data structures as M,W,F and S. Pthread argument of sem_open function was used as 0. So, I could use the semaphores between threads. So, I create two semaphores. One of them is between chef threads, and the other one was between chef and wholesaler. When the chef creates the dessert, post of this semaphore value, and then wholesaler wait it and continue to execution. For the program termination, when the file end, wholesaler writes -1 to arrays. So, each of chef threads sees these -1 and terminates itself. In the normal execution, wholesaler reads from file line by line and for each line it reads, it increase the value of this gradients array. So, chefs can check these arrays and see delivered gradients.

Sample Output Part of My Program :



```
TE mrddoner34@mrddoner34: ~/Desktop/System/SystemH4
the wholesaler has obtained the dessert and left to sell it
the wholesaler delivers sugar and flour
the wholesaler is waiting for the dessert
chef3 has taken the sugar
chef3 has taken the flour
chef3 is preparing the dessert
chef3 has delivered the dessert to the wholesaler
chef3 is waiting for sugar and flour
the wholesaler has obtained the dessert and left to sell it
the wholesaler delivers flour and walnuts
the wholesaler is waiting for the dessert
chef2 has taken the walnuts
chef2 has taken the flour
chef2 is preparing the dessert
chef2 has delivered the dessert to the wholesaler
chef2 is waiting for walnuts and flour
the wholesaler has obtained the dessert and left to sell it
the wholesaler delivers walnuts and milk
the wholesaler is waiting for the dessert
chef5 has taken the milk
chef5 has taken the walnuts
chef5 is preparing the dessert
chef5 has delivered the dessert to the wholesaler
chef5 is waiting for milk and walnuts
the wholesaler has obtained the dessert and left to sell it
the wholesaler delivers flour and walnuts
the wholesaler is waiting for the dessert
chef2 has taken the walnuts
chef2 has taken the flour
chef2 is preparing the dessert
chef2 has delivered the dessert to the wholesaler
chef2 is waiting for walnuts and flour
the wholesaler has obtained the dessert and left to sell it
the wholesaler delivers sugar and walnuts
the wholesaler is waiting for the dessert
chef1 has taken the walnuts
chef1 has taken the sugar
chef1 is preparing the dessert
chef1 has delivered the dessert to the wholesaler
chef1 is waiting for walnuts and sugar
the wholesaler has obtained the dessert and left to sell it
mrddoner34@mrddoner34:~/Desktop/System/SystemH4$
```