

## Homework 4 Report

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Assume

chef1 has an endless supply of walnuts and sugar but lacks milk and flour,  
chef2 has an endless supply of flour and sugar but lacks milk and walnuts,  
chef3 has an endless supply of flour and walnuts but lacks milk and sugar,  
chef4 has an endless supply of milk and sugar but lacks flour and walnuts,  
chef5 has an endless supply of milk and walnuts but lacks flour and sugar,  
chef6 has an endless supply of milk and flour but lacks walnuts and sugar.

I wrote 4 Pusher (lookMilk, lookFlour, lookWalnuts, lookSugar) functions to look at the ingredients brought by the wholesaler. These functions are specific to each ingredient. After Whoselar put the ingredients, lookMilk takes milk if there is milk, lookFlour takes flour if there is flour, lookWalnuts takes walnuts if there is walnuts, lookSugar takes sugar if there is sugar. Pusher looks from other ingredients and whichever chef needs this pair of ingredients, the competent chef wakes up and takes the ingredients and starts making the dessert. After the wholesaler leaves the ingredients, it starts waiting with sem\_wait (&wholesaler). The chef sleeps as much as the number I randomly produce while making the dessert. After the chef finishes the dessert, he delivers the dessert to the wholesaler and makes sem\_post (& wholesaler). Wholesaler also returns and continues to work again. After the wholesaler got the last ingredients, I gave the value 5 to the variable named sinyal. The wholesaler breaks the ingredients and when the ingredients are looked at by the pusher, it is checked whether the sinyal is 5 or not. If the signal is 5, 2 more authorized pusher is allowed to operate since there is a pusher for each ingredient, and then all pusher ends. Understanding which ingredients are available with Pusher, the chef takes the last ingredient (understood that the last ingredient is with the sinyal variable and the authorized chef works because a chef works for each ingredient), produces her dessert and all the chefs are terminated.

## INPUTS-OUTPUTS

```
1 MF
2 MW
3 MS
4 FW
5 FS
6 WS
7 WS
8 FS
9 FW
10 MS|
```

```
zeynep@zeynep-VirtualBox:~/Desktop$ make clean
rm -rf *.o program
zeynep@zeynep-VirtualBox:~/Desktop$ make all
gcc -c program.c
gcc -Wall -Wextra -pedantic program.c -o program -pthread
zeynep@zeynep-VirtualBox:~/Desktop$ ./program -i filePath
chef1 is waiting for milk and flour
chef2 is waiting for milk and walnuts
chef3 is waiting for milk and sugar
chef4 is waiting for flour and walnuts
chef5 is waiting for flour and sugar
chef6 is waiting for walnuts and sugar
the wholesaler delivers milk and flour
chef1 has taken the milk
chef1 has taken the flour
the wholesaler is waiting for the desert
chef1 is preparing the dessert
chef1 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef1 is waiting for milk and flour
the wholesaler delivers milk and walnuts
chef2 has taken the milk
chef2 has taken the walnuts
the wholesaler is waiting for the desert
chef2 is preparing the dessert
chef2 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef2 is waiting for milk and walnuts
the wholesaler delivers milk and sugar
chef3 has taken the milk
chef3 has taken the sugar
the wholesaler is waiting for the desert
chef3 is preparing the dessert
chef3 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef3 is waiting for milk and sugar
chef3 is waiting for milk and sugar
the wholesaler delivers flour and walnuts
chef4 has taken the flour
chef4 has taken the walnuts
the wholesaler is waiting for the desert
chef4 is preparing the dessert
chef4 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef4 is waiting for flour and walnuts
the wholesaler delivers flour and sugar
chef5 has taken the flour
chef5 has taken the sugar
the wholesaler is waiting for the desert
chef5 is preparing the dessert
chef5 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef5 is waiting for flour and sugar
the wholesaler delivers walnuts and sugar
chef6 has taken the walnuts
chef6 has taken the sugar
the wholesaler is waiting for the desert
chef6 is preparing the dessert
chef6 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef6 is waiting for walnuts and sugar
the wholesaler delivers walnuts and sugar
chef6 has taken the walnuts
chef6 has taken the sugar
the wholesaler is waiting for the desert
chef6 is preparing the dessert
chef6 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef6 is waiting for walnuts and sugar
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```
the wholesaler delivers flour and sugar
chef5 has taken the flour
chef5 has taken the sugar
the wholesaler is waiting for the desert
chef5 is preparing the dessert
chef5 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef5 is waiting for flour and sugar
the wholesaler delivers flour and walnuts
chef4 has taken the flour
chef4 has taken the walnuts
the wholesaler is waiting for the desert
chef4 is preparing the dessert
chef4 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef4 is waiting for flour and walnuts
the wholesaler delivers milk and sugar
chef3 has taken the milk
chef3 has taken the sugar
the wholesaler is waiting for the desert
chef3 is preparing the dessert
chef3 has delivered the dessert to the wholesaler
the wholesaler has obtained the dessert and left to sell it
chef3 is waiting for milk and sugar
zeynep@zeynep-VirtualBox:~/Desktop$
```