**Task 1**

1. Yes I did encounter deadlock, it was resolved by dropping the left chopstick if the right one is not available. This way another philosopher would not be stuck because another philosopher is using up the resource without accomplishing anything.

**Task 2**



**Task 3**



**Task 4**



**Task 5**



1. The algorithm used in Task 1 is described as the pseudo-code as follow.