

ID1217 HW3

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1 HW3, Task 1 and 2

1.1 Hungry Birds

The task consists of baby birds repeatedly eating worms from a dish and a parent bird repeatedly refilling the dish with worms. The task is solved with a split binary semaphore for producer/consumer as well as a mutual exclusion semaphore for synchronization among the baby birds (consumers).

Table 1: Bird index, number of worms and distribution of worms

Bird Index	Number of Worms	Percentage of Worms
Total	3589	100
1	900	0.251
2	903	0.252
3	897	0.250
4	890	0.247

1.2 Hungry Bear

The task consists of honey bees repeatedly filling a pot with honey and a bear sleeping until the pot is full and then eating. The task is also solved with a split binary semaphore for producer/consumer as well as a mutual exclusion semaphore for synchronization among the honey bees (producers).

Table 2: Bee index, number of honey refills and distribution of refills

Bee Index	Number of Honey refills	Percentage of Honey refills
Total	36039	100
1	9009	0.250
2	9012	0.250
3	9009	0.250
4	9010	0.240