

Complete the task

- a) java using an independent implementation of the synchronizer,
- b) java from the standard library
- c) in the Golang language

a) The first task about Winnie the Pooh. The bees, having calculated at the end of the month the losses from the presence of Winnie the Pooh in the forest, decided to find him and punish him. To search for the bear, they divided the forest into sections, each of which is combed by one swarm of bees. If a bear is found in its territory, the pack carries out a demonstration punishment and returns to the hive.

If the area is checked and no Winnie the Pooh is found in it, the swarm also returns to the hive. You need to create a multi-threaded application that simulates the actions of bees. When deciding to use the task portfolio paradigm.

b) The first military task. On a dark, dark night, ensigns Ivanov, Petrov, and Nechiporchuk are engaged in stealing military property from their native military unit. Being smart people and excellent in combat and formation training, the ensigns introduced a division of labor: Ivanov takes the property out of the warehouse, Petrov loads it into the truck, and Nechiporchuk calculates the value of the property. It is necessary to compile a multi-threaded application that simulates the activity of ensigns. When deciding to use the paradigm "producer-consumer" with active expectation.

c) Tasks about the Way of the Fist. On the gray slopes of the Himalayas stand two ancient Buddhist monasteries: Guan-Yin and Guan-Yan. Every year on the day of the Bodhisattva Aravatti's descent to earth, the monks of both monasteries gather for a joint festival and show their cultivation on the Way of the Fist. All those competing monks are divided into pairs, the winners of the pairs then fight among themselves and so on, until the final match. The monastery, whose monks won the final battle, takes the bodhisattva statue for safekeeping. Implement a multi-threaded application that determines the winner. An array is used as input data, which stores the amount of Qi energy of each monk. When deciding to use the principle of dichotomy.