

#Endterm

Each of the marks please solve in separate directory!!! In the .zip upload .ads, .adb, and connected .gpr only !!!

##Mark 2

Simulate the following story. Each event must be printed by a protected object.

Create a train station with 3 trains (3 protected objects in an array) which are waiting tourists to board.

A tourist can board on a train if number of tourists is less than 7. A tourist can wait max 1 s for the train to open doors, he can try max 3 times, after which he gives up. If successful in boarding this process takes 1.5 s long (this has to be condition at the entry point of train, such that others meanwhile will not board).

Create in the main program 20 dynamic tourists with discriminant, the number of the train ($i \bmod 3 + 1$) to board. A station chief will print every 2s the occupancy of the trains while tourists are boarding. The main program after 5 second stops the station chief.

##Mark 3

Complete the above story so that a tourist will travel with random 1 or 2 or 3 trains (for transfers generate how many trains to board and the train numbers with random generator). Arrival to station should be random value between 1s and 2s. All random generators need to be protected, and until not initialized should not start.

##Mark 4

This is extension of mark 2, so no transfers to different trains.

Tourists can travel not only by train but by buses too. Increase the tourist number to 30. If a tourist can not board immediately (different from mark 2!) a train, then he travels by bus for which he waits 1s. If could not take a bus, then he gives up. A bus waits 3s for tourists, and after a round (delay 2s) starts again (altogether 3 times). Create 3 dynamic buses, suppose any number can board a bus, and if train nr 1 goes to a place same bus nr goes to same destination.

##Mark 5

Previous story, but a tourist can go home with random number of transfers (a number between 1..6). A tourist starts with a random train number, then a random bus number, then again train and bus alternation, based on the number of transfers generated for him at the beginning.