POZNAN UNIVERSITY OF TECHNOLOGY

Faculty of Electronics and Telecommunication

SIMULATION TECHNIQUES PROJECT

TASK 1

Poznan, 2017

1. Task

Present scheme of simulation model for your task. Describe all objects and their attributes. Draw a block diagram of your task. Additionally:

- **Methods M1-M3:** Prepare description of time and conditional events.
- **Method M4:** List all processes and describe their phases

Implement all classes with their attributes. Add comments with short information about them. Add code which creates one object of each class.

Points:

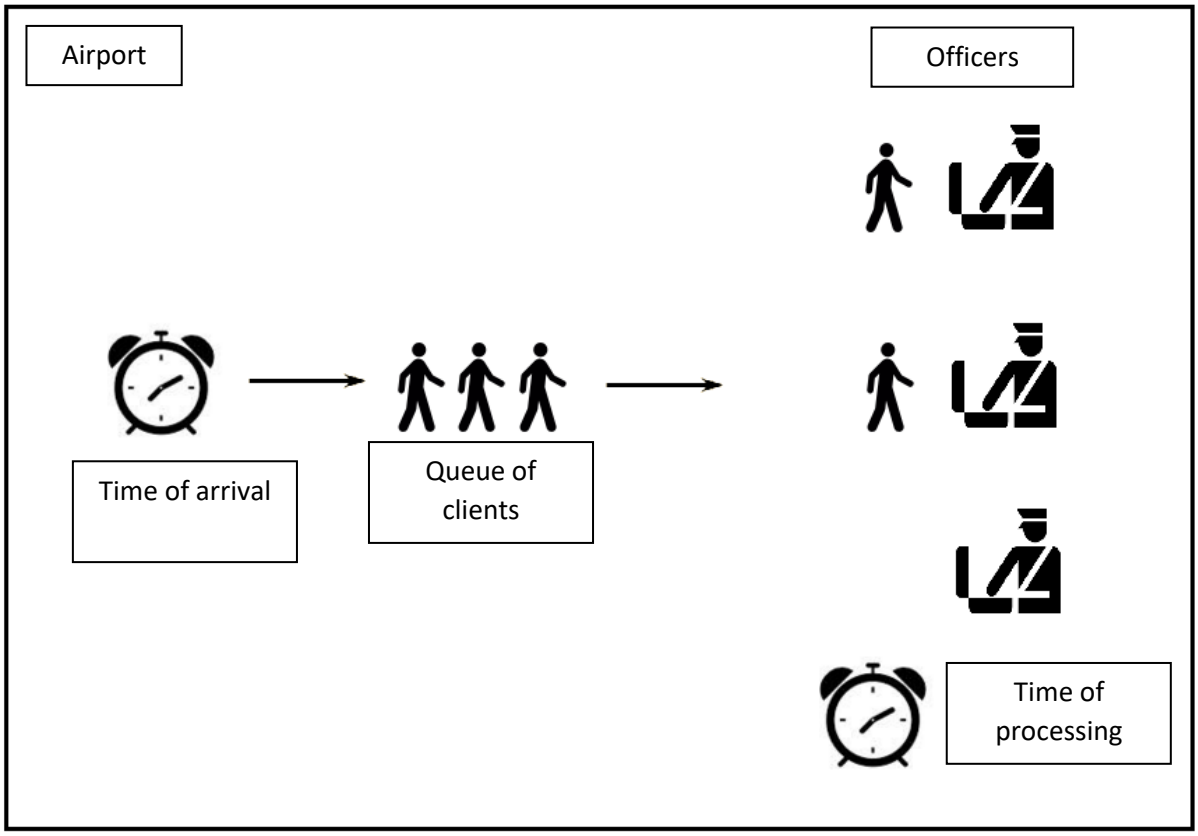
- Scheme of simulation model – 1 p.
- Block diagram – 1 p.
- Description of objects and attributes – 2 p.
- Description of conditional and time events / description of processes – 3 p.
- Implementation of classes and comments – 3 p.

2. Example

2.1. Task

Let's consider a queue to customs clearance. People arrives at exponentially distributed intervals with mean **L**. The processing time is uniformly distributed between <1, 20> min.

2.2. Scheme of simulation model



Pic. 2-1. Scheme of simulation model

2.3. Description of objects and attributes

Object	Name of class	Description	Attributes
Airport	Airport	…	- number of officers *const int* - vector of officers *vector <Officer*>* - Queue of clients *Queue*
Client	Client	...	- Time of arrival *int* - ID – id of client *int*
Queue if clients	Queue	...	- queue of clients *queue<Client*>*
Customs officer	Officer	...	- pointer to current client *Client**, if client == nullptr officer is free