**IE3081 – Homework #1 – Report**

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1. **SYSTEM NAME = Bank**

* Entities: Customers, teller, manager
* Attributes:   
  (For the customer): -> the balance in their accounts  
  -> age, name and surname, gender property of the customer  
  -> birth date  
  -> residence address  
  -> cart id  
    
  (For the teller): -> Age, name and surname, gender property of the teller
* Activities:   
  (for the customer): Making deposits, taking credit, holding money on the bank account, paying bills  
  (for the teller): serving customer, drinking coffee
* Events: Arrival of a customer, departure of a customer, completion of a service
* State Variables: Number of customers waiting, Number of busy tellers

1. **SYSTEM NAME = Hospital blood bank**

* Entities: blood donor, blood donee, hospital staff
* Attributes:   
  (For the donor): -> age, name and surname, gender property of the donor  
  -> Health conditions of the donor  
    
  (For the donee): -> age, name and surname, gender property of the donee  
  -> Health conditions of the donee
* Activities: giving blood, getting blood
* Events: Arrival of a hospital, departure from hospital
* State Variables:   
  -> Number of donees waiting for blood  
  -> Number of donors waiting in the line

1. **SYSTEM NAME = Fire service station**

* Entities: Firefighter, people
* Attributes:  
  (For the firefighter): -> age, name and surname, gender property of the firefighter  
  -> Skills that the firefighter got
* Activities: Getting help, helping to people
* Events: Arriving the place, Departuring from the place
* State variables: Number of people waiting to be rescued, Number of available firefighter that can help

1. **SYSTEM NAME = Airport**

* Entities: Customer, teller, planes
* Attributes:  
  (For customer): -> age, name and surname, gender property of the customer  
  -> Place number  
  -> Carrying weight  
    
  (For the teller): -> age, name and surname, gender property of the teller  
  -> working id  
    
  (For the planes): -> Capacity to carry  
  -> speed of the plane  
  -> number of passengers that can be carried
* Activities: Buying ticket, selling ticket
* Events: Arrival at airport, departure from airport, line up,
* State variables:   
  -> Number of people waiting in the line  
  -> Number of available teller

1. **SYSTEM NAME = Internet Cafe**

* Entities: Customer, Cafe Owner, Staff, Electronic devices
* Attributes:   
  (For the customer):-> Age of the customer
* Activities:   
  (For the customers): -> Ordering food, requesting help for repair  
    
  (For the cafe owner & staff): -> Preparing food, helping to figure out demands, checking out the technical devices,
* Events: Arrival at the cafe, departure from the cafe, preparing the computers
* State variables: Number of people waiting in the line, availability of the cashier’s desk

1. **SYSTEM NAME = Police Department**

* Entities: Polices, people
* Attributes:  
  (For the polices): -> Age, name and surname, gender of the police  
  -> Skills that police got
* Activities:   
  (For the police): -> Searching crime, helping to people   
    
  (For the people): -> getting help
* Events: Arrival at crime scene, departure from crime seen
* State variables: Availability of the police department, Number of people waiting