The topic is selected according to the student number in the group list.

Duplication of the topics in parallel groups is allowed, but plagiarism is prohibited.

In agreement with the teacher, the student can choose their own topic.

1. **Elective**. The **Teacher** announces enrollment in the **Course**. The **Student** enrolls in the **Course**, studies and after graduation the **Teacher** issues a **Grade**, which is stored in the **Archive**. There may be several **Students**, **Teachers** and **Courses** during their studies.

2. **Payments**. The **Client** has a **Bank Account** and a **Credit Card** (**CC**). The **Client** may pay for the **Order**, make a payment to another **Account**, block the **CC** and remove the **Account**. The **Administrator** can block the **CC** for exceeding the credit.

3. **Hospital**. The **Patient** is prescribed by a **Doctor**. The **Doctor** can make an appointment to the patient (procedures, medications, operations). A **Nurse** or other **Doctor** makes an appointment. The **Patient** may be discharged from the hospital after treatment, violation of the regime or in other circumstances.

4. **Entrance exams**. The **Entrant** registers at the **Faculty**, passes the **Exams**. The **Teacher** gives a **Grade**. The system calculates the average score and determines the **Entrants** enrolled in the educational institution.

5. **Library**. The **Reader** places an **Order for the book**. The system searches the **Catalog**. The **Librarian** gives the reader a **Book** on a subscription or in the reading room. If the **Book** is not returned by the **Reader**, it may be blacklisted by the **Administrator**.

6. **Design office**. The **Customer** submits a **Technical task** (**TT**) for the design of a **Building**. The **Designer** registers the **TT**, determines the cost of design and construction, issues an **Invoice** for the design to the **Customer** and creates a **Group of Designers** to implement the **Project**.

7. **Telephone station**. The **Subscriber** pays the **Bill** for calls and **Services**, may ask the **Administrator** to change the number and refuse the services. The **Administrator** changes the number, **Services** and temporarily disconnects the **Subscriber** for non-payment.

8. **Motor depot**. The **Dispatcher** distributes delivery requests among **Drivers** and designates a **Car** for this purpose. The **Driver** can apply for repairs. The **Dispatcher** may remove the **Driver** from work. The **Driver** makes a note about the **Delivery** and the condition of the **Car**.

9. **Internet-shop**. The **Administrator** adds information about the **Product**. The **Client** makes and pays for the **Order** for the **Goods**. The **Administrator** registers the **Sale** and may blacklist defaulters.
10. **Railway ticket office**. The **Passenger** makes an **Application** for the destination station, time and date of travel. The system registers the **Application** and searches for the appropriate **Train**. The **Passenger** chooses the **Train** and receives an **Invoice** for payment. The administrator enters **Train** numbers, intermediate and final stations, prices.
11. **Public transport**. A **Bus**, **Trolleybus** or **Tram** is assigned to the **Route**. Vehicles must move at a certain interval for each **Route**. In the event of a breakdown, back-up vehicles should leave the **Route** or the traffic interval should increase.
12. **Civil aviation**. The **Administrator** forms the **Flight team** (pilots, navigator, radio operator, flight attendants) on the **Flight**. Each **Flight** is performed by an **Airplane** with a certain capacity and range. The **Flight** may be canceled due to weather conditions at the **Airport** of departure or destination. The destination **Airport** may be changed during the flight due to technical malfunctions reported by the commander.
13. **Journals**. The **Reader** can make an **Application** by pre-selecting **Journals** from the list. The system calculates the amount to be paid. The **reader** pays for the **Application**. The **Administrator** adds the **Application** to the "black list" if the **Reader** does not pay for it within a certain period.
14. **Hotel booking**. The **Client** leaves the **Application** for the **Room**, indicating the number of places in the room, the class of the apartment and the time of stay. The **Administrator** considers the **Application**, confirms or rejects it. The result is viewed by the **Client**. In case of confirmation of the application, the **Client** pays for the services.
15. **Car rental**. The **client** selects the **Car** from the list of available, fills in the **Order** form, specifying passport data, lease term. The **Administrator** may reject the **Application**, stating the reasons for refusal. Upon confirmation of the **Order**, the **Client** pays for the **Order**. In case of damage to the **Car** by the **Client**, the **Administrator** shall make the appropriate marks.

Blinov I. N., Romanchik V. S. (2013) Java. Programming methods.