```java
import java.util.ArrayList;
import java.util.List;
import java.util.Scanner;

class University {
    String name;
    List<Faculty> faculties;

    University(String name) {
        this.name = name;
        this.faculties = new ArrayList<>();
    }
}

class Faculty {
    String name;
    Dean dean;
    List<Institute> institutes;

    Faculty(String name) {
        this.name = name;
        this.institutes = new ArrayList<>();
    }
}

class Institute {
    String name;
    String address;

    Institute(String name, String address) {
        this.name = name;
        this.address = address;
    }
}

class Employee {
    String socialSecurityNumber;
    String name;
    String email;

    Employee(String socialSecurityNumber, String name
```

```
41 , String email) {
42         this.socialSecurityNumber =
   socialSecurityNumber;
43         this.name = name;
44         this.email = email;
45     }
46 }
47
48 class Dean extends Employee {
49     Dean(String socialSecurityNumber, String name,
   String email) {
50         super(socialSecurityNumber, name, email);
51     }
52 }
53
54 class Researcher extends Employee {
55     String researchArea;
56     List<Project> projects;
57
58     Researcher(String socialSecurityNumber, String
   name, String email, String researchArea) {
59         super(socialSecurityNumber, name, email);
60         this.researchArea = researchArea;
61         this.projects = new ArrayList<>();
62     }
63 }
64
65 class Project {
66     String name;
67     String startDate;
68     String endDate;
69     int hours;
70
71     Project(String name, String startDate, String
   endDate, int hours) {
72         this.name = name;
73         this.startDate = startDate;
74         this.endDate = endDate;
75         this.hours = hours;
76     }
77 }
```

```
 78
 79
 80
 81      public void main(String[] args) {
 82          Scanner scanner = new Scanner(System.in);
 83
 84          // Создание объекта университета
 85          System.out.println("Enter University name:"
    );
 86          String universityName = scanner.nextLine();
 87          University university = new University(
    universityName);
 88
 89          // Создание объекта факультета
 90          System.out.println("Enter Faculty name:");
 91          String facultyName = scanner.nextLine();
 92          Faculty faculty = new Faculty(facultyName);
 93
 94          // Создание объекта декана
 95          System.out.println("Enter Dean's social
    security number:");
 96          String deanSSN = scanner.nextLine();
 97          System.out.println("Enter Dean's name:");
 98          String deanName = scanner.nextLine();
 99          System.out.println("Enter Dean's email:");
100          String deanEmail = scanner.nextLine();
101          Dean dean = new Dean(deanSSN, deanName,
    deanEmail);
102
103          // Связывание декана с факультетом
104          faculty.dean = dean;
105
106          // Создание объекта института
107          System.out.println("Enter Institute name:");
108          String instituteName = scanner.nextLine();
109          System.out.println("Enter Institute address
    :");
110          String instituteAddress = scanner.nextLine
    ();
111          Institute institute = new Institute(
    instituteName, instituteAddress);
```

```
112
113         // Связывание института с факультетом
114         faculty.institutes.add(institute);
115
116         // Создание объекта научного сотрудника (
    исследователя)
117         System.out.println("Enter Researcher's
    social security number:");
118         String researcherSSN = scanner.nextLine();
119         System.out.println("Enter Researcher's name
    :");
120         String researcherName = scanner.nextLine();
121         System.out.println("Enter Researcher's email
    :");
122         String researcherEmail = scanner.nextLine();
123         System.out.println("Enter Researcher's
    research area:");
124         String researchArea = scanner.nextLine();
125         Researcher researcher = new Researcher(
    researcherSSN, researcherName, researcherEmail,
    researchArea);
126
127         // Создание проекта
128         System.out.println("Enter name of project: "
    );
129         String projectName = scanner.nextLine();
130         System.out.println("Enter date of start
    project: ");
131         String startDate = scanner.nextLine();
132         System.out.println("Enter date of end
    project: ");
133         String endDdate = scanner.nextLine();
134         System.out.println("Enter hours of project
    : ");
135         int hours = Integer.parseInt(scanner.
    nextLine());
136         Project project = new Project(projectName,
    startDate, endDdate, hours);
137         faculty.dean = dean;
138 // Связываем институт с факультетом
139         faculty.institutes.add(institute);
```

```
140 // Связываем научного сотрудника с проектом
141         researcher.projects.add(project);
142 
143         // Вывод информации
144         System.out.println("University: " +
    university.name);
145         System.out.println("Faculty: " + faculty.
    name);
146         System.out.println("Dean: " + dean.name);
147         System.out.println("Institute: " + institute
    .name + ", Address: " + institute.address);
148         System.out.println("Project " + "for " +
    researcher.name + " : " + researcher.projects.get(0
    ).name);
149     }
150 
```

```
 1 "C:\Program Files\Java\jdk-21\bin\java.exe" --enable-
   preview "-javaagent:C:\Program Files\JetBrains\
   IntelliJ IDEA Community Edition 2023.3.2\lib\idea_rt.
   jar=56316:C:\Program Files\JetBrains\IntelliJ IDEA
   Community Edition 2023.3.2\bin" -Dfile.encoding=UTF-8
    -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=
   UTF-8 -classpath C:\Users\ponya\IdeaProjects\
   untitled1\out\production\untitled1 Main
 2 Enter University name:
 3 VSU
 4 Enter Faculty name:
 5 CSF
 6 Enter Dean's social security number:
 7 456
 8 Enter Dean's name:
 9 Александр
10 Enter Dean's email:
11 aakryl@cs.vsu.ru
12 Enter Institute name:
13 ИСИТ
14 Enter Institute address:
15 394006, г. Воронеж, Университетская пл., д.1, ауд.
   386.
16 Enter Researcher's social security number:
17 678
18 Enter Researcher's name:
19 Дмитрий
20 Enter Researcher's email:
21 borisov@sc.vsu.ru
22 Enter Researcher's research area:
23 computer science
24 Enter name of project:
25 Theory of information
26 Enter date of start project:
27 12.12.2023
28 Enter date of end project:
29 29.12.2023
30 Enter hours of project:
31 120
32 University: VSU
33 Faculty: CSF
```

```
34 Dean: Александр
35 Institute: ИСИТ, Address: 394006, г. Воронеж,
   Университетская пл., д.1, ауд. 386.
36 Project for Дмитрий : Theory of information
37
38 Process finished with exit code 0
39
```

Результат моделирования

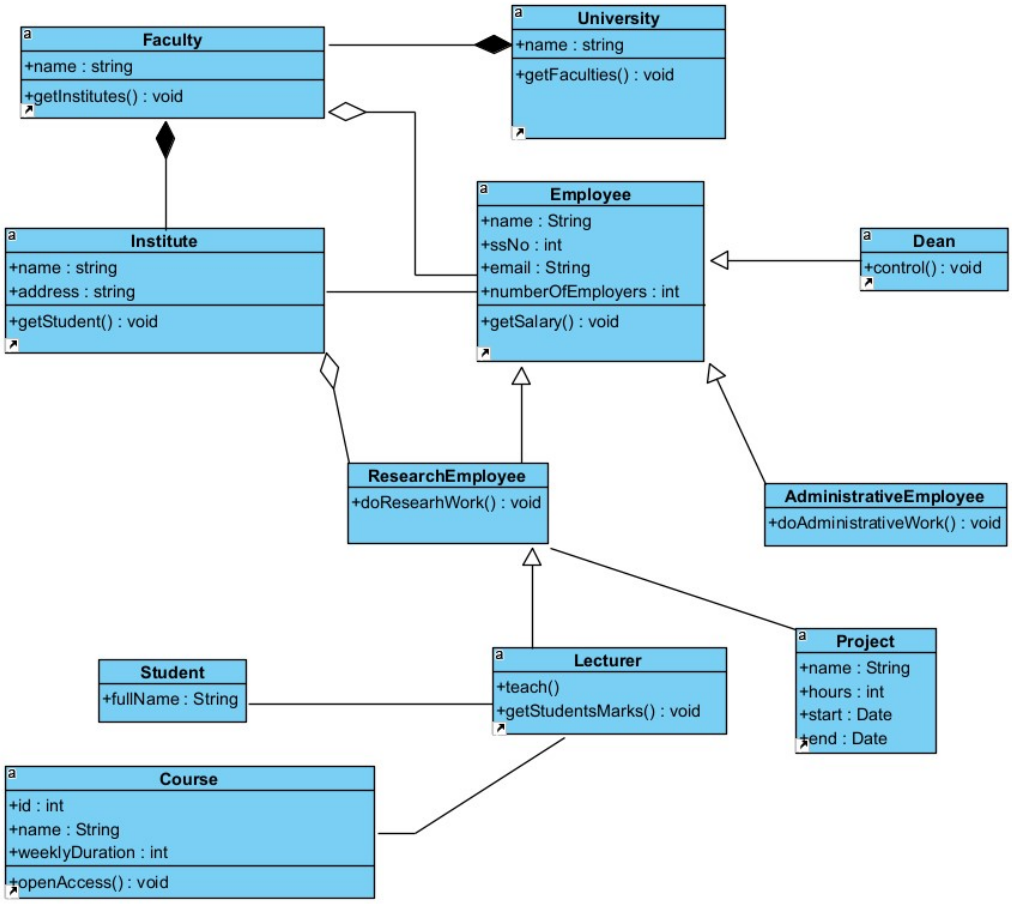

Диаграмма прецедентов

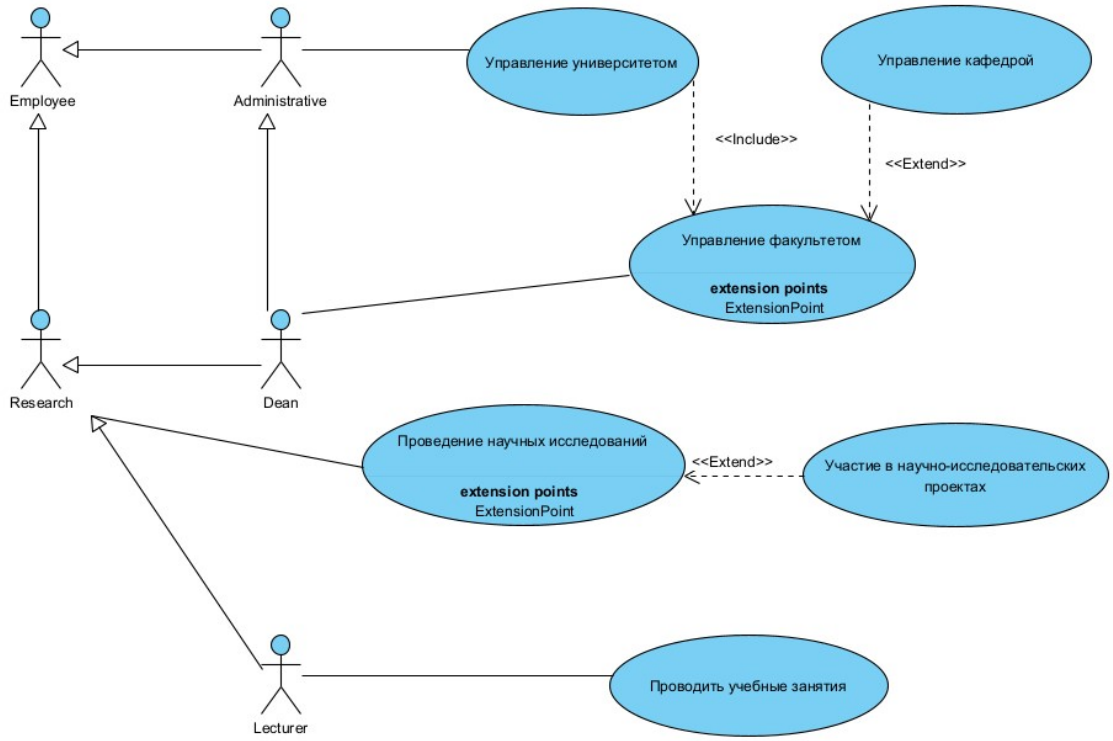

Диаграмма последовательности

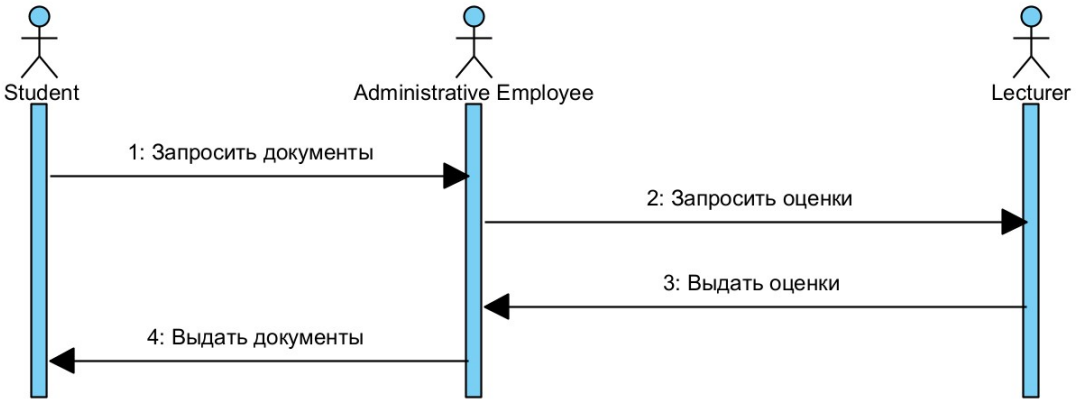
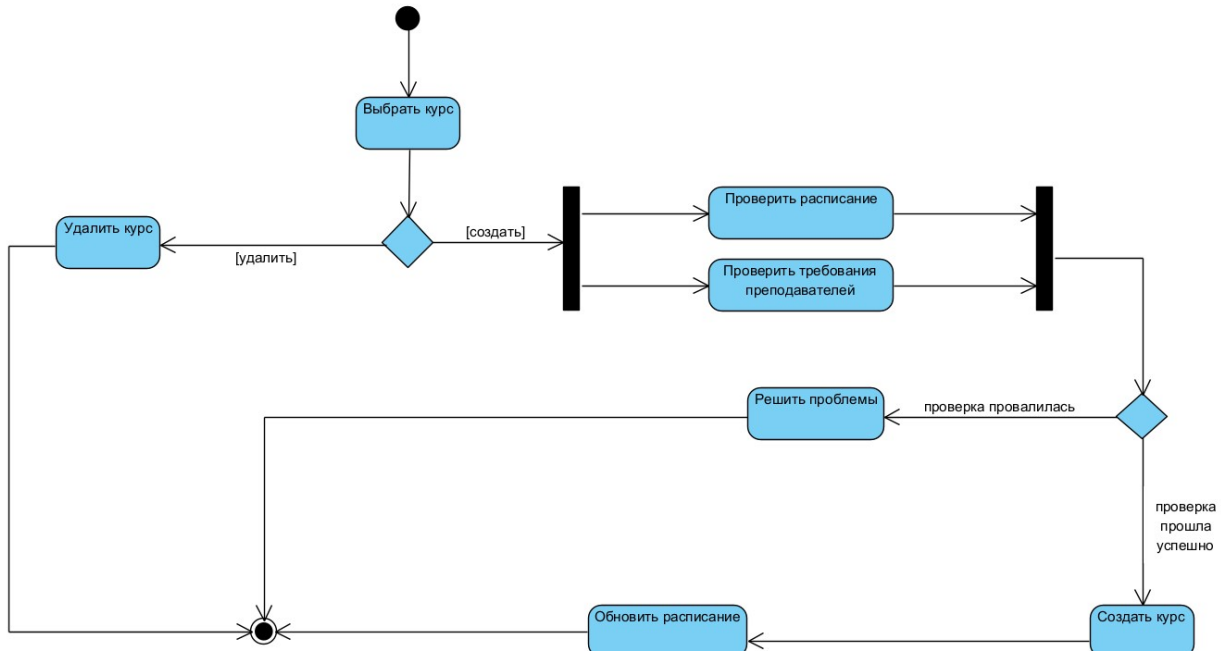
Диаграмма состояний