RAPOR

Yaptığım proje beklenen tüm işlevleri yerine getiriyor. Ek olarak:

* Silme işlemleri bağlantılı dosyaları etkileyecek biçimde gerçekleşiyor.

- Eğer öğretim görevlisi silinirse verdiği tüm dersler ve bu derslere yapılan kayıtlar da siliniyor.

- Eğer bir ders veya öğrenci silinirse o ders veya öğrenci ile ilişkili tüm kayıtlar da siliniyor.

- Kayıt silinmesi durumunda öğrencinin kredi durumu ve dersin kontenjanı güncelleniyor.

* Eğer bir dersin kredisi değişirse bu değişim derse kayıtlı öğrencilere yansıtılıyor.
* Eğer öğretim görevlisi, ders veya öğrencinin özgün id değerleri güncelleme ile değiştirilirse, bu değişiklikler bağlantılı dosyalara yansıtılıyor.

- Eğer öğretim görevlisinin id’si değiştirilirse bu değişim verdiği kursların instructor id’sini etkiliyor.

- Eğer kurs veya öğrencinin id değerleri değişirse, eski id’ler ile yapılan kayıtlar silinip yerine yenileri

yapılıyor.

**NOT:** Aşağıda terminal çıktısının bir kopyası bulunuyor. Terminalde yazıları daha kolay okuyabilmek için satırlar arasında boşluk olacak şekilde yazdırıyordum. Ancak word dosyasında, satırlar arasındaki bu boşluklar nedeniyle akışı takip etmek zorlaştığından, her bir operasyon sonunda programın yazdırdığı çıktıyı (başarı mesajı / hata mesajı / veya eğer listeleme operasyonu gerçekleştiriliyorsa yazdırılan listenin kendisi) **kalın yazı stiline** dönüştürdüm. Böylece gerekli girdiler alındıktan sonra programın yazdırdığı mesajı görmek daha kolay hale geldi ve her bir operasyon bloğu daha seçilebilir hale geldi.

Programı daha detaylı test etmek için kullandığım ‘applyTests’ fonksiyonu da kaynak kodun içinde bulunuyor. Bu testlerde fonksiyonların sadece başarılı olduğu durumlar değil başarısızlık durumları da (örneğin kontenjanı dolu olan bir derse kayıt yapmayı denemek hata verir ve kayıt yapılmaz) bulunuyor. Bu fonksiyon çağrılarak daha detaylı bir çıktı alınabilir.

MERT ARICAN

19011622

Select the operation you want to perform:

Enter '1', for adding Instructor, Course, Student or Registration record to the database.

Enter '2', for removing Instructor, Course, Student or Registration record from database.

Enter '3', for updating Instructor, Course, Student or Registration record from database.

Enter '4', for listing operations.

Enter '5', for terminating the program.

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 1

Enter the name of the instructor: Paul

Enter the surname of the instructor: Hegarty

Enter the title of the instructor: Instructor

**Added the instructor 'Instructor Paul Hegarty' with ID: 1.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 2

Enter the name of the instructor: David J.

Enter the surname of the instructor: Malan

Enter the title of the instructor: Professor

**Added the instructor 'Professor David J. Malan' with ID: 2.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 1897

Enter the name of the instructor: Sevket Sureyya

Enter the surname of the instructor: Aydemir

Enter the title of the instructor: Instructor

**Added the instructor 'Instructor Sevket Sureyya Aydemir' with ID: 1897.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 1483

Enter the name of the instructor: Raffaello

Enter the surname of the instructor: Sanzio

Enter the title of the instructor: Painter

**Added the instructor 'Painter Raffaello Sanzio' with ID: 1483.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: CS193P

Enter the name of the course: Developing Apps for iOS

Enter the quota for the course: 80

Enter the credit of the course: 4

Enter the instructor ID for the course: 1

**Added the course 'CS193P Developing Apps for iOS'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: CS50

Enter the name of the course:CS50's Introduction to Computer Science

Enter the quota for the course: 300

Enter the credit of the course: 4

Enter the instructor ID for the course: 2

**Added the course 'CS50 CS50's Introduction to Computer Science'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: CS50UT

Enter the name of the course:CS50's Understanding Technology

Enter the quota for the course: 100

Enter the credit of the course: 3

Enter the instructor ID for the course: 2

**Added the course 'CS50UT CS50's Understanding Technology'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: TEK1881

Enter the name of the course: Tek Adam

Enter the quota for the course: 19

Enter the credit of the course: 4

Enter the instructor ID for the course: 1897

**Added the course 'TEK1881 Tek Adam'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: SOA1511

Enter the name of the course: School of Athens

Enter the quota for the course: 50

Enter the credit of the course: 2

Enter the instructor ID for the course: 1483

**Added the course 'SOA1511 School of Athens'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 0

Enter the name of the student: Sokrates

Enter the surname of the student: of Athens

**Added the student 'Sokrates of Athens'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 1

Enter the name of the student: Platon

Enter the surname of the student: of Athens

**Added the student 'Platon of Athens'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 3

Enter the name of the student: Aristotle

Enter the surname of the student: of Athens

**Added the student 'Aristotle of Athens'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 330

Enter the name of the student: Euclid

Enter the surname of the student: of Alexandria

**Added the student 'Euclid of Alexandria'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 100

Enter the name of the student: Cladius

Enter the surname of the student: Ptolemy

**Added the student 'Cladius Ptolemy'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 412

Enter the name of the student: Diogenes

Enter the surname of the student: of Sinop

**Added the student 'Diogenes of Sinop'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

**Enter the maximum number of courses that a student can register in a quarter: 10**

**Enter the maximum number of credits that a student can use in a quarter: 25**

Enter the student number of the student: 0

Enter the course code: SOA1511

**Successfully registered Sokrates of Athens for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 1998

Enter the name of the student: Mert

Enter the surname of the student: Arican

**Added the student 'Mert Arican'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: TEK1881

**Successfully registered Mert Arican for the course TEK1881 Tek Adam**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: CS193P

**Successfully registered Mert Arican for the course CS193P Developing Apps for iOS**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: CS50

**Successfully registered Mert Arican for the course CS50 CS50's Introduction to Computer Science**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: CS50UT

**Successfully registered Mert Arican for the course CS50UT CS50's Understanding Technology**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1

Enter the course code: SOA1511

**Successfully registered Platon of Athens for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 2

Enter the course code: SOA1511

**ERROR: Couldn't register for course. There is no student with student number: 2.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 3

Enter the course code: SOA1511

**Successfully registered Aristotle of Athens for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 100

Enter the course code: SOA1511

**Successfully registered Cladius Ptolemy for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 330

Enter the course code: SOA1511

**Successfully registered Euclid of Alexandria for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 412

Enter the course code: SOA1511

**Successfully registered Diogenes of Sinop for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 330

Enter the course code: CS50

**Successfully registered Euclid of Alexandria for the course CS50 CS50's Introduction to Computer Science**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 412

Enter the course code: CS50

**Successfully registered Diogenes of Sinop for the course CS50 CS50's Introduction to Computer Science**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 3

Enter student number for student: 360

Enter the name of the student: Hypatia

Enter the surname of the student: the Neoplatonist

**Added the student 'Hypatia the Neoplatonist'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 360

Enter the course code: CS50

**Successfully registered Hypatia the Neoplatonist for the course CS50 CS50's Introduction to Computer Science**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 360

Enter the course code: TEK1881

**Successfully registered Hypatia the Neoplatonist for the course TEK1881 Tek Adam**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 1

Enter the ID of the instructor: 2

**Here is all the courses given by instructor Professor David Malan:**

**###COURSE RECORD###**

**Course code: CS50UT**

**Course name: CS50's Understanding Technology**

**Credit: 3**

**Quota: 1/100**

**Instructor ID: 2**

**###################**

**###COURSE RECORD###**

**Course code: CS50**

**Course name: CS50's Introduction to Computer Science**

**Credit: 4**

**Quota: 4/300**

**Instructor ID: 2**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: CS50

**Here is the list of all the students that is registered for the course CS50 CS50's Introduction to Computer Science:**

**###STUDENT RECORD###**

**Student number: 1998**

**Name: Mert**

**Surname: Arican**

**Number of courses registered: 4**

**Number of credits taken: 15**

**#####################**

**###STUDENT RECORD###**

**Student number: 330**

**Name: Euclid**

**Surname: of Alexandria**

**Number of courses registered: 2**

**Number of credits taken: 6**

**#####################**

**###STUDENT RECORD###**

**Student number: 412**

**Name: Diogenes**

**Surname: of Sinop**

**Number of courses registered: 2**

**Number of credits taken: 6**

**#####################**

**###STUDENT RECORD###**

**Student number: 360**

**Name: Hypatia**

**Surname: the Neoplatonist**

**Number of courses registered: 2**

**Number of credits taken: 8**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 3

Enter the student number: 1998

**Here is the list of all of the courses that 'Mert Arican' is registered for:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 2/19**

**Instructor ID: 1897**

**###################**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 1**

**###################**

**###COURSE RECORD###**

**Course code: CS50**

**Course name: CS50's Introduction to Computer Science**

**Credit: 4**

**Quota: 4/300**

**Instructor ID: 2**

**###################**

**###COURSE RECORD###**

**Course code: CS50UT**

**Course name: CS50's Understanding Technology**

**Credit: 3**

**Quota: 1/100**

**Instructor ID: 2**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 2

Enter '1', for removing Instructor.

Enter '2', for removing Course.

Enter '3', for removing Student.

Enter '4', for removing Registration.

Enter value: 1

CAUTION: All of the courses taught by this instructor, and all the registrations made for

that courses will also get removed from database.

Enter the ID of the instructor you want to delete: 2

**Removed the instructor 'Professor David Malan' with ID: 2.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 3

Enter the student number: 1998

**Here is the list of all of the courses that 'Mert Arican' is registered for:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 2/19**

**Instructor ID: 1897**

**###################**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 1**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 360

Enter the course code: SOA1511

**Successfully registered Hypatia the Neoplatonist for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: 6.0001

Enter the name of the course:Introduction to Computer Science and Programming In Python

Enter the quota for the course: 30

Enter the credit of the course: 2

Enter the instructor ID for the course: 1

**Added the course '6.0001 Introduction to Computer Science and Programming In Python'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: 6.0001

**Successfully registered Mert Arican for the course 6.0001 Introduction to Computer Science and Programming In Python**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 2

Enter '1', for removing Instructor.

Enter '2', for removing Course.

Enter '3', for removing Student.

Enter '4', for removing Registration.

Enter value: 2

CAUTION: All of the registrations made for the course, will also get removed from database.

Enter the code of the course you want to delete: 6.0001

**Removed the course '6.0001 Introduction to Computer Science and Programming In Python'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 2

Enter '1', for removing Instructor.

Enter '2', for removing Course.

Enter '3', for removing Student.

Enter '4', for removing Registration.

Enter value: 3

CAUTION: All of the registration records of the student, will also get removed from database.

Enter the student number of the student you want to delete: 360

**Removed the student 'Hypatia the Neoplatonist'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: SOA1511

**Here is the list of all the students that is registered for the course SOA1511 School of Athens:**

**###STUDENT RECORD###**

**Student number: 0**

**Name: Sokrates**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

**###STUDENT RECORD###**

**Student number: 1**

**Name: Platon**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

**###STUDENT RECORD###**

**Student number: 3**

**Name: Aristotle**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

**###STUDENT RECORD###**

**Student number: 100**

**Name: Cladius**

**Surname: Ptolemy**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

**###STUDENT RECORD###**

**Student number: 330**

**Name: Euclid**

**Surname: of Alexandria**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

**###STUDENT RECORD###**

**Student number: 412**

**Name: Diogenes**

**Surname: of Sinop**

**Number of courses registered: 1**

**Number of credits taken: 2**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: SOA1511

**Successfully registered Mert Arican for the course SOA1511 School of Athens**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 2

Enter '1', for removing Instructor.

Enter '2', for removing Course.

Enter '3', for removing Student.

Enter '4', for removing Registration.

Enter value: 4

Enter the student number for the registration you want to delete: 1998

Here is the list of all of the courses that 'Mert Arican' is registered for:

###COURSE RECORD###

Course code: TEK1881

Course name: Tek Adam

Credit: 4

Quota: 1/19

Instructor ID: 1897

###################

###COURSE RECORD###

Course code: CS193P

Course name: Developing Apps for iOS

Credit: 4

Quota: 1/80

Instructor ID: 1

###################

###COURSE RECORD###

Course code: SOA1511

Course name: School of Athens

Credit: 2

Quota: 7/50

Instructor ID: 1483

###################

Enter the course code for removing registration: SOA1511

**Removed the registration.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 3

Enter '1', for updating Instructor.

Enter '2', for updating Course.

Enter '3', for updating Student.

Enter value: 1

Enter the ID of the instructor you want to update: 1

Enter values for the updated version of the instructor:

Enter the ID for the instructor: 12

Enter the name of the instructor: Paul

Enter the surname of the instructor: Hegarty

Enter the title of the instructor: Professor

**Updated succesfully!**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 1

Enter the ID of the instructor: 12

**Here is all the courses given by instructor Professor Paul Hegarty:**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 12**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 3

Enter '1', for updating Instructor.

Enter '2', for updating Course.

Enter '3', for updating Student.

Enter value: 2

Enter the code of the course that you want to update: SOA1511

Enter values for the updated version of the course:

Enter the code for the course: SOA1509

Enter the name of the course: School of Athens

Enter the quota for the course: 50

Enter the credit of the course: 4

Enter the instructor ID for the course: 1483

**Updated succesfully!**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: SOA1509

**Here is the list of all the students that is registered for the course SOA1509 School of Athens:**

**###STUDENT RECORD###**

**Student number: 0**

**Name: Sokrates**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

**###STUDENT RECORD###**

**Student number: 1**

**Name: Platon**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

**###STUDENT RECORD###**

**Student number: 3**

**Name: Aristotle**

**Surname: of Athens**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

**###STUDENT RECORD###**

**Student number: 100**

**Name: Cladius**

**Surname: Ptolemy**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

**###STUDENT RECORD###**

**Student number: 330**

**Name: Euclid**

**Surname: of Alexandria**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

**###STUDENT RECORD###**

**Student number: 412**

**Name: Diogenes**

**Surname: of Sinop**

**Number of courses registered: 1**

**Number of credits taken: 4**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 3

Enter '1', for updating Instructor.

Enter '2', for updating Course.

Enter '3', for updating Student.

Enter value: 3

Enter the student number of the student that you want to update: 0

Enter values for the updated version of the student:

Enter student number for student: 0

Enter the name of the student: Socrates

Enter the surname of the student: of Athens

**Updated succesfully!**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 3

Enter '1', for updating Instructor.

Enter '2', for updating Course.

Enter '3', for updating Student.

Enter value: 3

Enter the student number of the student that you want to update: 3

Enter values for the updated version of the student:

Enter student number for student: 384

Enter the name of the student: Aristotle

Enter the surname of the student: of Stagira

**Updated succesfully!**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 3

Enter the student number: 1998

**Here is the list of all of the courses that 'Mert Arican' is registered for:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 1/19**

**Instructor ID: 1897**

**###################**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 12**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 1

Enter the ID of the instructor: 1897

**Here is all the courses given by instructor Instructor Sevket Aydemir:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 1/19**

**Instructor ID: 1897**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: CS193P

**Here is the list of all the students that is registered for the course CS193P Developing Apps for iOS:**

**###STUDENT RECORD###**

**Student number: 1998**

**Name: Mert**

**Surname: Arican**

**Number of courses registered: 2**

**Number of credits taken: 8**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 3

Enter the student number: 1998

H**ere is the list of all of the courses that 'Mert Arican' is registered for:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 1/19**

**Instructor ID: 1897**

**###################**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 12**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 4

Enter the ID of the instructor: 1483

Here is all the courses given by instructor Painter Raffaello Sanzio:

###COURSE RECORD###

Course code: SOA1509

Course name: School of Athens

Credit: 4

Quota: 6/50

Instructor ID: 1483

###################

Enter the code of the course: SOA1509

**Successfully printed the students list to file SOA1509\_STUDENTLIST.txt**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 4

Enter the name of the instructor: Martin

Enter the surname of the instructor: Puchner

Enter the title of the instructor: Professor

**Added the instructor 'Professor Martin Puchner' with ID: 4.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: WRI

Enter the name of the course: Writing

Enter the quota for the course: 5

Enter the credit of the course: 3

Enter the instructor ID for the course: 4

**Added the course 'WRI Writing'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: WRI

**Successfully registered Mert Arican for the course WRI Writing**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 1

Enter the ID for the instructor: 6

Enter the name of the instructor: David

Enter the surname of the instructor: Damroch

Enter the title of the instructor: Professor

**Added the instructor 'Professor David Damroch' with ID: 6.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 2

Enter the code for the course: WLTR

Enter the name of the course: World Literature

Enter the quota for the course: 100

Enter the credit of the course: 3

Enter the instructor ID for the course: 6

**Added the course 'WLTR World Literature'.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: WLTR

**Successfully registered Mert Arican for the course WLTR World Literature**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 0

Enter the course code: WLTR

**Successfully registered Socrates of Athens for the course WLTR World Literature**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1

Enter the course code: WLTR

**Successfully registered Platon of Athens for the course WLTR World Literature**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 2

Enter the course code: WLTR

**ERROR: Couldn't register for course. There is no student with student number: 2.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 384

Enter the course code: WLTR

**Successfully registered Aristotle of Stagira for the course WLTR World Literature**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1998

Enter the course code: WRI

**ERROR: Couldn't register for course. Mert Arican already registered for WRI Writing.**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 0

Enter the course code: WRI

**Successfully registered Socrates of Athens for the course WRI Writing**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 1

Enter the course code: WRI

**Successfully registered Platon of Athens for the course WRI Writing**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 384

Enter the course code: WRI

**Successfully registered Aristotle of Stagira for the course WRI Writing**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: WRI

**Here is the list of all the students that is registered for the course WRI Writing:**

**###STUDENT RECORD###**

**Student number: 1998**

**Name: Mert**

**Surname: Arican**

**Number of courses registered: 4**

**Number of credits taken: 14**

**#####################**

**###STUDENT RECORD###**

**Student number: 0**

**Name: Socrates**

**Surname: of Athens**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

**###STUDENT RECORD###**

**Student number: 1**

**Name: Platon**

**Surname: of Athens**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

**###STUDENT RECORD###**

**Student number: 384**

**Name: Aristotle**

**Surname: of Stagira**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 1

Enter '1', for adding Instructor.

Enter '2', for adding Course.

Enter '3', for adding Student.

Enter '4', for adding Registration.

Enter value: 4

Enter the student number of the student: 100

Enter the course code: WLTR

**Successfully registered Cladius Ptolemy for the course WLTR World Literature**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 2

Enter the code of the course: WLTR

**Here is the list of all the students that is registered for the course WLTR World Literature:**

**###STUDENT RECORD###**

**Student number: 1998**

**Name: Mert**

**Surname: Arican**

**Number of courses registered: 4**

**Number of credits taken: 14**

**#####################**

**###STUDENT RECORD###**

**Student number: 0**

**Name: Socrates**

**Surname: of Athens**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

**###STUDENT RECORD###**

**Student number: 1**

**Name: Platon**

**Surname: of Athens**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

**###STUDENT RECORD###**

**Student number: 384**

**Name: Aristotle**

**Surname: of Stagira**

**Number of courses registered: 3**

**Number of credits taken: 10**

**#####################**

**###STUDENT RECORD###**

**Student number: 100**

**Name: Cladius**

**Surname: Ptolemy**

**Number of courses registered: 2**

**Number of credits taken: 7**

**#####################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 3

Enter the student number: 1998

**Here is the list of all of the courses that 'Mert Arican' is registered for:**

**###COURSE RECORD###**

**Course code: TEK1881**

**Course name: Tek Adam**

**Credit: 4**

**Quota: 1/19**

**Instructor ID: 1897**

**###################**

**###COURSE RECORD###**

**Course code: CS193P**

**Course name: Developing Apps for iOS**

**Credit: 4**

**Quota: 1/80**

**Instructor ID: 12**

**###################**

**###COURSE RECORD###**

**Course code: WRI**

**Course name: Writing**

**Credit: 3**

**Quota: 4/5**

**Instructor ID: 4**

**###################**

**###COURSE RECORD###**

**Course code: WLTR**

**Course name: World Literature**

**Credit: 3**

**Quota: 5/100**

**Instructor ID: 6**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 1

Enter the ID of the instructor: 6

**Here is all the courses given by instructor Professor David Damroch:**

**###COURSE RECORD###**

**Course code: WLTR**

**Course name: World Literature**

**Credit: 3**

**Quota: 5/100**

**Instructor ID: 6**

**###################**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 4

Enter '1', for listing courses given by an specific instructor.

Enter '2', for listing students that is registered for specific course.

Enter '3', for listing all courses that specific student is registered for.

Enter '4', for printing student list of a course taught by specific instructor, to a file.

Enter value: 4

Enter the ID of the instructor: 4

Here is all the courses given by instructor Professor Martin Puchner:

###COURSE RECORD###

Course code: WRI

Course name: Writing

Credit: 3

Quota: 4/5

Instructor ID: 4

###################

Enter the code of the course: WRI

**Successfully printed the students list to file WRI\_STUDENTLIST.txt**

('1' -> Add, '2' -> Remove, '3' -> Update, '4' -> List, '5' -> Exit)

Please enter a valid operation number: 5

**Program terminated.**

Program ended with exit code: 0