

Student Database

Student id:

Course id:

Room id:

Student id , course id and room id (input values) has chosen randomly from given text data files. And all of the results below has done with these input values.

BUTTONS

Button Name	Functionality
Exam Schedule For Given Student	Reports an exam Schedule for a given student
Students Taking Given Course	Reports a student list taking a given course
Courses In Given Room	Course list for a given exam room
Total Course Number For Given Room	Reports total number of courses in a given room
Student Takes Greater Than 3.0 On Given Course(my choice)	Reports a student list have gpa more than 3.0 on a given course
stdMap.has and keys.includes test	Reports the time and count result of searching a student id in either stdMap and keys.

IO link :

<https://eneskzlc.github.io/AdvancedPrograming/Homeworks/StudentDatabase/studentDatabase.html>

Exam Schedule For Given Student

Code:

```
function makeExamSchedule()//1 Exam Schedule
{
    let std = stdMap.get(studentInp.value)

    if(!std) return report(id+" not found");
    let t = std.list;
    let crs = [];
    for(let course of t)
    {
        let l = crsMap.get(course);
        if(!l) continue;
        crs.push(l);
    }
    report("Exam Schedule:");
    crs.filter(j=>report(j));
}
```

Input Value:

Student id:

Result:

Exam Schedule:
BIL 101 09:00-12:00 9.01.2017
GTP 101 09:00-12:00 7.01.2017
GTP 103 09:00-12:00 11.01.2017
GTP 105 15:00-18:00 2.01.2017
GTP 107 12:00-15:00 7.01.2017
UNIM 103 09:00-12:00 4.01.2017

Student list taking a given course

Code:

```
function studentsTakingCourse() //2
{
    let id = crsInp.value.toString().toUpperCase();
    let a = [];
    for (let std of stdMap.values())
        if (std.list.includes(id))
            a.push(std.id+" "+std.name);
    console.log(a.length);
    if (a.length > 0)
    {
        report(a.length+" students taking given course:");
        report("");
        a.filter(l=>report(l));
    }
    else report("No students in "+id);
}
```

Input Value:

Course id:

Result:

50 students taking given course:

116690190 ŞEYMA
116690267 FATMANUR
116690555 CEYHUN
116690881 BÜŞRA
116691039 MEHMET
116691061 EDANUR
116691098 YELİZ
116691497 KÜBRA
116691532 FURKAN
116691550 ELİF
116691005 TUBAN

The list is too long there are 50 students in it. So I do not take all of the students as image.

Course List For A Given Exam Room

Code:

```
function coursesInGivenRoom()//3
{
    let id = roomInp.value.toString().toUpperCase();
    let a = [];
    for(let crs of crsMap.values())
        if(crs.rooms.includes(id))
            a.push(crs.id);
    if(a.length < 0)
    {
        report("There is no course in room: "+id);
    }
    else
    {
        report("Courses in room: "+id);
        a.filter(l=>report(l));
    }
}
```

Input:

Room id:

Result:

```
Courses in room: BTB02
ADP 105
ARAB 101 02-03
BGM 501
BGM 502
BGM 539
BGM 551
BGM 553
BGM 555
BPP 101
BPP 107
CGP 101
EE 301
EE 311
HUK 405
MAT 103
MGT 453
OTM 101
PHIL 225
POLS 203
RUS 101
```

Total Number Of Courses In A Given Room

Code:

```
function courseNumberInGivenRoom()//4
{
    let id = roomInp.value.toString().toUpperCase();
    let a = [];
    for(let crs of crsMap.values())
        if(crs.rooms.includes(id))
            a.push(crs.id);

    if(a.length <0)
    {
        report("There is no course in room: "+id);
    }
    else
    {
        report(a.length+" courses given in this room");
    }
}
```

Input:

Room id:

Result:

20 courses given in this room

List Of Students Has Gpa More Than 3.0 For A Given Course

Code:

```
function succStdsInGivenCourse()//5
{
    let id = crsInp.value.toString().toUpperCase();
    let a=[];
    for(let std of stdMap.values())
        if(std.list.includes(id) && std.gpa >3.0)
        {
            a.push(std.id + " "+ std.name);
        }
    if(a.length<0)
    {
        report("There is nobody have gpa more than 3.0 in "
        +id);
    }
    else
    {
        a.filter(l=>report(l));
    }
}
```

Input:

Course id:

Result:

116690555 CEYHUN
116691061 EDANUR
116691905 TURAN
116692805 GAMZE
116692950 OĞUZHAN
116692953 İBRAHİM
116701840 ORHAN
116702618 SEDANUR
116710211 MUSTAFA
116710599 ÖZGE
116711240 TUĞBA
116712203 MARİFCAN
116712661 RAMAZAN
116713102 ÇAĞRI
116831058 AHMET

Question 2 – stdMap.has and keys.includes searching speed test

Code:

```
function testSpeed()
{
  // question -2
  let keys = [...stdMap.keys()] //Iterable
  //let rndId = Math.trunc(Math.random() *
  //  (1000000000));
  //these works but hard to show it works well
  //so i made it manually below
  let rndId = 116700800;
  let time = Date.now();
  let count = 0;
  for(let i =0;i <10000;i++)
  {
    if(keys.includes((rndId+i).toString()))
    {
      count++;
    }
  }
  let c = "<br>Searched with keys.includes from "
    +rndId+" to<br>"+(rndId+10000)
    +" and found "+count+" students in "
    +(Date.now()-time)+"ms<br>";
  report(c);
  time = Date.now();
  count = 0;
  for(let i=0;i <10000;i++)
  {
    if(stdMap.has((rndId+i).toString()))
    {
      count++;
    }
  }
  c= "Searched with stdMap.has from "
    +rndId+" to<br>"+(rndId+10000)
    +" and found "+count+" students in "
    +(Date.now()-time)+"ms";
  report(c);
}
```

Input:

Course id:

Result:

Searched with keys.includes from 116700800 to 116710800 and found 63 students in 108ms

Searched with stdMap.has from 116700800 to 116710800 and found 63 students in 1ms