

Part I: Practice and Theory

The following problems are for practise only and will **not be collected**.

Review problems: R8.1-R8.8.

Practice Problems: P8.3, P8.4, P8.6.

Part II: Programming. The following problems will be **collected** and both of them graded. Each graded problem will be worth 25 points. Read instructions carefully!

(1) **Problem P8.2.**

- Implement classes `Person`, `Student` and `Instructor` described in Problem P8.2. Then write a program that reads 1) a name and a birthday for a `Person`, 2) a name, a birthday and a salary for an `Instructor`, and 3) a name, a birthday and a major for a `Student`. Then use the member functions `print()` to print out the information about each person on the screen.
- [Submit the solution as hmw_2_1.cpp](#)
- Sample output:

```
C:\Windows\system32\cmd.exe
Person's full name: John Doe
Person's birthday <mm/dd/yyyy>: 10/10/1999

Instructor's full name: Kate Smith
Instructor's birthday <mm/dd/yyyy>: 01/01/2000
Instructor's salary: 60000

Student's full name: Alexis Tzorba
Student's birthday <mm/dd/yyyy>: 09/08/1999
Student's major: Math

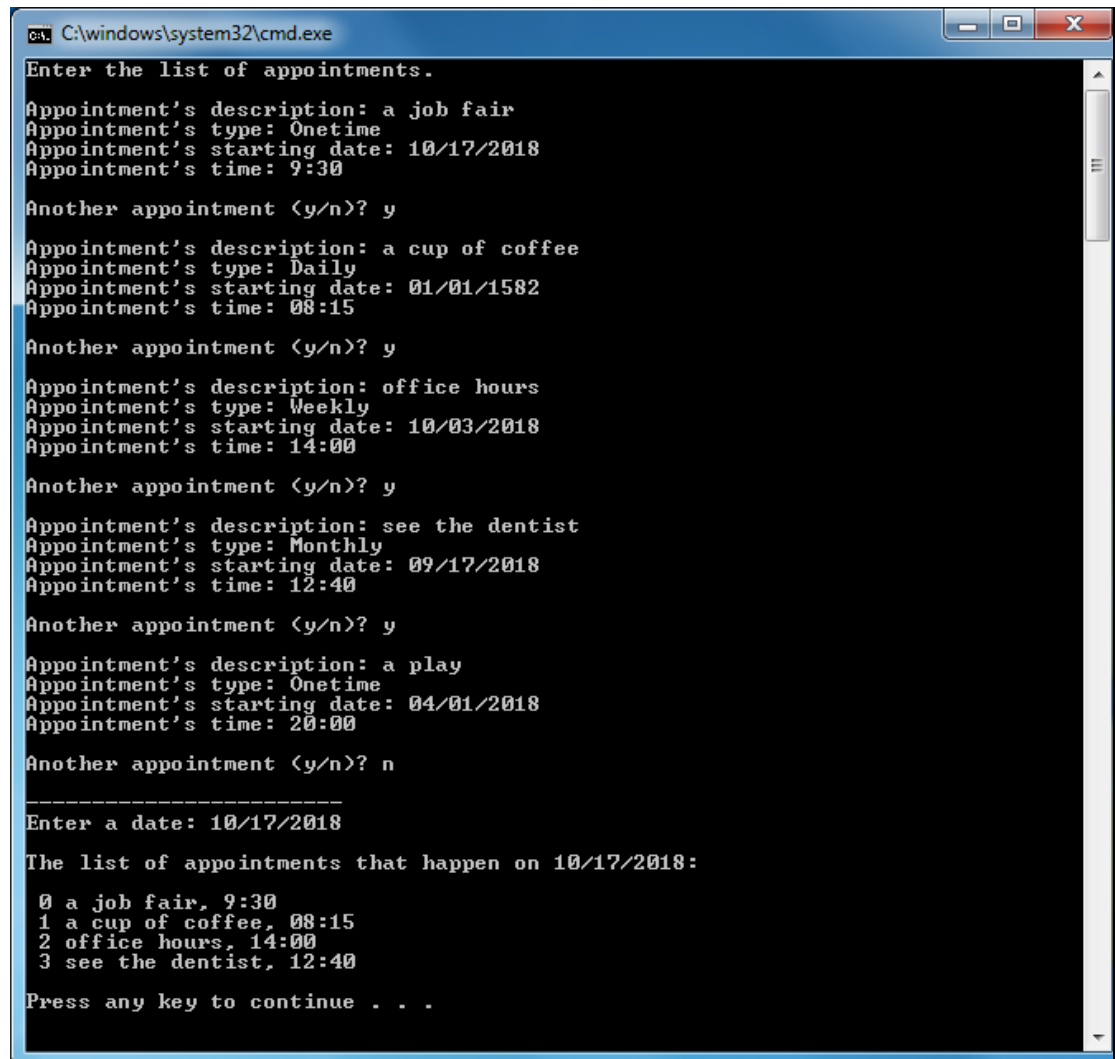
Person's Information:
Name:      John Doe
Birthday:  10/10/1999

Instructor's Information:
Name:      Kate Smith
Birthday:  01/01/2000
Salary:    60000

Student's Information:
Name:      Alexis Tzorba
Birthday:  09/08/1999
Major:     Math
Press any key to continue . . . _
```

(2) Problem P8.7.

- Following the instructions in Problem P8.7 implement the a base class Appointment and derived classes Onetime, Daily, Weekly, and Monthly.
- Don't forget about leap years. See the algorithm https://en.wikipedia.org/wiki/Leap_year. You can assume that the year of any date is greater then 1582, and so the wiki-formula applies.
- You can assume that the input is always valid.
- [Submit the solution in the file named hmw_2.2.cpp](#)
- Sample output:



```
C:\windows\system32\cmd.exe
Enter the list of appointments.
Appointment's description: a job fair
Appointment's type: Onetime
Appointment's starting date: 10/17/2018
Appointment's time: 9:30
Another appointment (y/n)? y
Appointment's description: a cup of coffee
Appointment's type: Daily
Appointment's starting date: 01/01/1582
Appointment's time: 08:15
Another appointment (y/n)? y
Appointment's description: office hours
Appointment's type: Weekly
Appointment's starting date: 10/03/2018
Appointment's time: 14:00
Another appointment (y/n)? y
Appointment's description: see the dentist
Appointment's type: Monthly
Appointment's starting date: 09/17/2018
Appointment's time: 12:40
Another appointment (y/n)? y
Appointment's description: a play
Appointment's type: Onetime
Appointment's starting date: 04/01/2018
Appointment's time: 20:00
Another appointment (y/n)? n
-----
Enter a date: 10/17/2018
The list of appointments that happen on 10/17/2018:
0 a job fair, 9:30
1 a cup of coffee, 08:15
2 office hours, 14:00
3 see the dentist, 12:40
Press any key to continue . . .
```