

3,500 words:

This is a strict limit **not** a guideline: **any piece submitted with more words than the limit will result in the excess not being marked**

Part 1 Programming Solution (70%)

You need to develop a programming solution in the form of python script(s) to solve the business problem given in the following case.

You are assigned by Mr. Smith, head of IT support at your Business School, to develop a room- booking system similar to the one used by the central university

1. View the detail of any specified room (e.g. 2.005), such as capacity, equipment, location, availability, etc., and then book the room if available.
2. Search available room based on given criteria, such as time slots(required), capacity (optional), and equipment (optional).

For demonstration, you may generate an arbitrary dataset based on rooms listed in the central university system. An example data set is shown in the appendix. Your dataset can be structured differently.

Requirements:

1. All codes must be implemented using Python.
2. You need to specify the functionalities you try to accomplish in your script.
3. Codes must be well documented, such as comments at the beginning or a separate readme.txt file describing what each file (script, data file, etc.) does, how to run all codes, and how to organize your files.
4. You may search online or discuss with other students, but you must work independently to write your own code.

Notes:

- Don't overcomplicate the problem. You don't need a database for this (It's OK to have one if you prefer).
- Additional Python packages (not covered in class), such as Pandas and Tkinter, are welcomed to use. But they should be well documented.
- Your primary goal is to demonstrate your understanding of python programming.

- You are not expected to replicate the whole system but rather to “reproduce” the two main functionalities.
- • The system could be operated with or without GUI.
- • You don’t have to mimic the design of the actual webpage.
- • Be creative.

Appendix Example Dataset

ID	Building	Name	Capacity.	Type	Facilities
1	Engineering	IMC.002	200	Teaching	Fixed Computer, Laptop Input, Data Projector
2	Library	LIB 1	80	Teaching	Fixed Computer, Document Camera

Booking ID	Room ID	Start	End
1	1	2021-10-11 11:00	2021-10-11 11:30
2	1	2021-10-12 14:00	2021-10-11 15:00
3	2	2021-10-11 08:00	2021-10-11 12:00

You may also reflect your experience of completing the assessment/project for another module. In that case, a short description of the work needs to be covered in the report to provide necessary context.

Centrally Timetabled Room Information

[Timetable Reports System - Teaching Timetable for Academic Year 2021/2022](#)

Room search

If you know the building and room number, select them below to view a picture and more information about the room's facilities.

Arts Centre ▾ Woods-Scawen room ▾ Go!

Search by capacity

1 - 20 ▾ Go!

Search by room type

Tiered ▾ Go!

Lectern Types

Information on different [Types of Lecterns](#) in CTTR and how to interact with AV equipment and other technology.

Lecture Capture

For information regarding [which rooms are presently enabled for Echo 360 Lecture Capture](#)

If you would like to find a room with certain facilities, select them below to see a list of possible rooms.

Lectern Types

Information on different [Types of Lecterns](#) in CTTR and how to interact with AV equipment and other technology.

Lecture Capture

For information regarding [which rooms are presently enabled for Echo 360 Lecture Capture](#)

If you would like to find a room with certain facilities, select them below to see a list of possible rooms.

Room Booking Panels

For information regarding [which rooms are presently enabled with the ONELAN Reserva Room Booking Panels](#)

Facilities search

Show pages with ☒ any ☐ all of the selected tags

Select: [all](#) | [none](#)

- | | | | |
|---|---|---|---|
| <input type="checkbox"/> Data Projector | <input type="checkbox"/> Fixed Computer | <input type="checkbox"/> Laptop Input | <input type="checkbox"/> Plasma/ LCD Screen |
| <input type="checkbox"/> Black board | <input type="checkbox"/> White board | <input type="checkbox"/> Lapel Microphone | <input type="checkbox"/> Induction Loop |
| <input type="checkbox"/> Document Camera | <input type="checkbox"/> Bluray Player | <input type="checkbox"/> Lecture Capture | <input type="checkbox"/> Solstice Wireless Casting |
| <input type="checkbox"/> Lecture Capture Camera | <input type="checkbox"/> Touch Screen Monitor | <input type="checkbox"/> Audio and Video Conferencing | <input type="checkbox"/> Catchbox |
| <input type="checkbox"/> Clevertouch | <input type="checkbox"/> Dual Projection | <input type="checkbox"/> Laptop Input (HDMI) | <input type="checkbox"/> MS Teams Wireless Microphone |
| <input type="checkbox"/> MS Teams Video Camera | <input type="checkbox"/> MS Teams Enhanced AV | | |

Please note all Fixed Computers have **DVD drives** to play **DVD** and **CD-ROMs**.

For [further guidance](#) in relation to our **in room teaching technologies**.