

# Lab 07

## Programming for AI

October 5, 2022

- This task will be done in Jupyter Notebook
- Write your name and Reg No. in first cell of notebook
- Type **jupyter notebook** in Ubuntu terminal to launch the Jupyter Notebook App

### 1 Task 01

Currently, Timetable of Monday looks like this

Room	08:30-09:50	10:00-11:20	11:30-12:50	01:00-02:20	02:30-03:50	03:55-05:15
C-301	PF (CS-A)	Calculus (CS-A)	AP (CS-A)	Islamic Studies (CS-A)	OOP (A)	OOP (B)
C-302	AP (CS-B)	PF (CS-B)	Islamic Studies (CS-B)	Calculus (CS-B)	OOP (C)	OOP (D)
C-303	Islamic Studies (CS-C)	AP (CS-C)	Calculus (CS-C)	PF (CS-C)	Info Sec (CS-A)	Info Sec (CS-B)
C-304	PF (CS-D)	Islamic Studies (CS-D)	AP (CS-D)	Calculus (CS-D)	Info Sec (CS-E)	Info Sec (CS-F)
C-305	Calculus (CS-E)	PF (CS-E)	Islamic Studies (CS-E)	AP (CS-E)	PPIT (CS-B)	PPIT (CS-A)
C-307	Eng Comp (SE-G) 08:30-10:15		Eng Comp (CS-G) 12:30-02:15	Calculus (SE-A)	PPIT (CS-E)	
C-308	Eng Comp (CS-H) 08:30-10:15		Eng Comp (CS-J) 12:30-02:15	Eng Comp (CS-F) 02:30-04:15		
C-309	Eng Comp (CS-K) 08:30-10:15		SMD (A)	SMD (B)	Comp Networks (DS-N)	Info Sec (DS-N)
C-310	LA (DS-A)	PF (DS-A)	Calculus (DS-A)	Pakistan Studies (DS-A)	Calculus (CY-B)	OS (C)
C-311	Algo (CY-T)	DB (CY-T)	MMDS	Automata (CS-G)	Entre (AI-J)	Entre (AI-K)
C-401	PF (DS-B)	Pakistan Studies (DS-B)	LA (DS-B)	Calculus (DS-B)	Eng Comp (DS-D) 02:30-04:15	
C-402	Calculus (DS-C)	LA (DS-C)	Pakistan Studies (DS-C)	PF (DS-C)	PPIT (CS-F)	
C-403	PF (CY-A)	Calculus (CY-A)	Pakistan Studies (CY-A)	LA (CY-A)	AP (SE-B)	
C-404	OS (B)	PF (CY-B)	LA (CY-B)	SDA (CS-C)	Pakistan Studies (SE-E)	Pakistan Studies (CY-B)
C-405	PF (SE-A)	Pakistan Studies (SE-A)	TBW (CS-A)	AP (SE-A)		
C-406	Pakistan Studies (SE-B)	PF (SE-B)	Calculus (SE-B)	Prob & Stats(SE-P)	S/w Const & Dev (SE-P)	S/w Qual Engg (SE-P)
C-407	Calculus (SE-E)	AP (SE-E)	PF (SE-E)	S/w Qual Engg (SE-Q)	Prob & Stats(SE-Q)	S/w Const & Dev (SE-Q)
C-408	AP (SE-F)	PF (SE-F)	Pakistan Studies (SE-F)	TBW (SE-S)	Algo (SE-R)	TBW (SE-R)
C-409	Calculus (AI-C)	LA (CS-Y)	PF (AI-C)	LA (AI-C)	Pakistan Studies (AI-C)	
C-410	SE	AI (A)	Automata (CS-E)	SDA (CS-E)	Web Prog (B)	
B-227	PF (AI-D)	Calculus (AI-D)	LA (AI-D)	Pakistan Studies (AI-D)	PDC (CY-T)	Sec S/w Design (CY-T)
B-229	Discrete (CS-Y)	Reserved by EE	TBW (AI-K)	Algo (AI-K)	Algo (AI-J)	TBW (AI-J)

Figure 1: An example image.

Your task is to convert the above timetable into a Pandas Dataframe in the following format.  
(Your dataframe will have almost 230 rows)

Day	Room	Time	Course	type
Monday	C-301	08:30-09:50	PF (CS-A)	Theory
Monday	C-301	08:30-09:50	AP (CS-B)	Theory
Monday	C-301	08:30-09:50	PF (CS-D)	Theory
Monday	C-301	08:30-09:50	PF (CS-A)	Theory
Monday	C-301	08:30-09:50	AP (CS-B)	Theory
Monday	C-301	08:30-09:50	PF (CS-D)	Lab

## 2 Task 02

Next, perform the following operations

1. Create a histogram of Room and then answer which room is busiest on Monday.
2. Create a histogram of Time and then answer in which time slot there are less number of classes on Monday
3. Create a scatter plot between Room and Course and then answer which course have classes in most different rooms

Happy Coding :)