

COURSES

May 5, 2021

```
[3]: import pandas as pd
pd.set_option('display.max_rows', None)
import matplotlib.pyplot as plt

[4]: df = pd.read_json("../courses.json")
# print(df[['index', 'title', 'date_completed']].to_string())
# df[['index', 'title', 'date_completed']]
```

1 All Courses

```
[5]: cr = df.rename(columns={'index': '#', 'title': 'Course Title', 'date_completed':
    ↪ 'Completion Date'})
cr[['#', 'Course Title', 'Completion Date']]
```

```
[5]:
```

	#	Course Title	Completion Date
0	64	JSON Processing with Java EE	2021-05-04
1	63	Introducing Jupyter	2021-04-30
2	62	pandas Essential Training	2021-04-28
3	61	Data Ingestion with Python	2021-04-21
4	60	Learning JDBC	2021-04-15
5	59	Cloud Native Development with Node.js, Docker,...	2021-04-11
6	58	MySQL Essential Training	2021-04-05
7	57	MySQL Installation and Configuration	2021-04-03
8	56	Learning Bash Scripting	2021-04-02
9	55	Learning Windows Subsystem for Linux	2021-03-29
10	54	Blockchain Basics	2021-03-27
11	53	Designing RESTful APIs	2021-03-26
12	52	Learning Node.js	2021-03-25
13	51	Learning REST APIs	2021-03-19
14	50	Polyglot Web Development	2021-03-19
15	49	Python: XML, JSON, and the Web	2021-03-12
16	48	JavaScript and JSON: Integration Techniques	2021-03-08
17	47	JavaScript and AJAX: Integration Techniques	2021-03-06
18	46	Advanced PHP: Debugging Techniques	2021-03-03
19	45	Docker for Data Scientists	2021-02-25
20	44	Docker for .NET Developers with Visual Studio	2021-02-24
21	43	Learning PHP	2021-02-23

22	42	Advanced Java Programming	2021-02-18
23	41	C#: Interfaces and Generics	2021-02-10
24	40	C#: Delegates, Events and Lambdas	2021-02-07
25	39	C#: Collections	2021-02-04
26	38	Leading without Formal Authority	2021-02-01
27	37	Excel: Lookup Functions in Depth	2021-01-29
28	36	Excel: Power Pivot for Beginners	2021-01-27
29	35	Excel: PivotTables for Beginners	2021-01-26
30	34	Implementing a Data Warehouse SQL Server 2019	2021-01-19
31	33	IoT Foundations: Fundamentals	2021-01-18
32	32	SQL Server: Reporting Services	2021-01-18
33	31	SQL Server Integration Services	2021-01-15
34	30	Learning MongoDB	2021-01-08
35	29	SAP ERP Essential Training (2018)	2021-01-07
36	28	HTML5: Geolocation	2021-01-03
37	27	Python Essential Training	2021-01-01
38	26	Cloud Computing Careers and Certifications: Fi...	2020-12-24
39	25	Visual Studio Code for Python Developers	2020-12-21
40	24	jQuery for Web Designers	2020-12-19
41	23	JavaScript for Web Designers	2020-12-13
42	22	SQL Tips, Tricks, & Techniques	2020-11-28
43	21	Learning JavaScript Debugging	2020-11-27
44	20	Succeeding in Web Development: Full Stack and ...	2020-11-20
45	19	Innovative Customer Service Techniques	2020-11-20
46	18	Learning Docker	2020-11-20
47	17	Learning GitHub	2020-11-09
48	16	Learning C++	2020-11-04
49	15	C# & .NET: Programming	2020-10-23
50	14	Java Essential Training: Objects and APIs	2020-10-20
51	13	Learning Java	2020-10-17
52	12	Installing Apache, MySQL, and PHP	2020-10-17
53	11	Learning Regular Expressions	2020-10-13
54	10	Learning the JavaScript Language	2020-10-12
55	9	Phone-Based Customer Service	2020-10-09
56	8	Introduction to CSS	2020-10-09
57	7	Working with Upset Customers	2020-10-08
58	6	Learn API Documentation with JSON and XML	2020-10-05
59	5	Learning Python	2020-10-03
60	4	Visual Studio Code for Web Developers	2020-09-30
61	3	Learning PowerShell	2020-09-26
62	2	Technical Writing: Quick Start Guides	2020-09-25
63	1	Learning Linux Command Line	2020-09-25

2 All Skills Covered

```
[63]: sk = df['skills']
      # sk
      # list(sk)
      for index, value in sk.items():
          print(f"{value}")

['Software Design', 'JSON', 'Java']
['Data Visualization']
['Pandas (Software)', 'Data Analysis']
['Python (Programming Language)', 'Data Management', 'Data Ingestion', 'Data Cleaning']
['Java']
['Cloud Application Development', 'Kubernetes', 'Node.js', 'Docker Products']
['Database Management System (DBMS)', 'MySQL', 'Database Administration']
['Database Management System (DBMS)', 'MySQL']
['Bash', 'Shell Scripting']
['IT Service Management', 'Windows 10', 'Linux']
['Databases', 'Big Data', 'Blockchain']
['REST APIs', 'RESTful architecture']
['Front-end Development', 'Node.js', 'Back-End Web Development']
['REST APIs', 'Front-end Development', 'Application Programming Interfaces', 'Back-End Web Development']
['Python', 'MongoDB', 'Polyglot', 'Application Programming Interfaces', 'Node.js', 'Back-End Web Development', 'Perl', 'Ruby']
['Python (Programming Language)']
['Front-end Development', 'JavaScript', 'JSON']
['AJAX', 'Front-end Development', 'JavaScript']
['Xdebug', 'PHP', 'Back-End Web Development']
['Python (Programming Language)', 'Machine Learning', 'Containerization', 'Docker Products']
['Docker Products', 'Visual Studio']
['PHP', 'Back-End Web Development']
['Software Development', 'Java']
['Object-Oriented Programming (OOP)', 'C#']
['Object-Oriented Programming (OOP)', 'C#']
['C#']
['Communication', 'Accountability', 'Leadership']
['Data Analysis', 'Microsoft Excel']
['Data Management', 'Data Analysis', 'Microsoft Excel']
['Pivot Tables', 'Business Analytics', 'Microsoft Excel']
['Database Design', 'Data Warehousing', 'Data Warehouse Architecture', 'Microsoft SQL Server']
['Internet of Things (IoT)']
['SQL Server Reporting Services (SSRS)', 'Business Intelligence (BI)', 'Microsoft SQL Server']
['Database Administration', 'Microsoft SQL Server', 'SQL Server Integration
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Services (SSIS)']
['MongoDB', 'Database Development', 'Full-Stack Development']
['SAP ERP']
['Geographic Information Systems (GIS)', 'HTML']
['Python (Programming Language)']
['Cloud Computing', 'IT Management']
['Python (Programming Language)', 'Microsoft Visual Studio Code']
['Front-end Development', 'jQuery']
['Front-end Development', 'JavaScript', 'Web Design']
['Big Data', 'SQL']
['JavaScript']
['Web Development', 'Full-Stack Development']
['Small Business Management', 'Customer Service']
['Cloud Computing', 'Cloud Development', 'Docker Products']
['Git', 'GitHub', 'Version Control']
['C++']
['.NET Framework', 'C#']
['Java']
['Software Development', 'Java']
['Database Development', 'MySQL', 'PHP', 'Apache']
['Pattern Matching', 'Regular Expressions']
['Front-end Development', 'JavaScript']
['Communication', 'Small Business Management', 'Customer Service', 'Phone Coverage']
['Front-end Development', 'Cascading Style Sheets (CSS)', 'Web Standards']
['Customer Communication', 'Customer Service']
['Application Programming Interfaces', 'JSON', 'XML']
['Python (Programming Language)']
['Front-end Development', 'Back-End Web Development', 'Visual Studio']
['PowerShell', 'IT Automation']
['Technical Writing']
['Bash', 'Network Administration', 'Computer Networking', 'Linux']

```

[]:

2.1 May 2021 Courses

```

[7]: may21_records = df[df['date_completed'].between('2021-05-01','2021-05-31')]
    may21_records['index'].count()

```

[7]: 1

```

[8]: may21_records[['index','title','date_completed']].rename(columns={'index': '#',
    ↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})

```

```

[8]:      #      Course Title Completion Date
    0  64  JSON Processing with Java EE      2021-05-04

```

2.2 April 2021 Courses

```
[9]: apr21_records = df[df['date_completed'].between('2021-04-01','2021-04-30')]  
apr21_records['index'].count()
```

```
[9]: 8
```

```
[10]: apr21_records[['index','title','date_completed']].rename(columns={'index': '#',  
    ↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[10]:
```

	#	Course Title	Completion Date
1	63	Introducing Jupyter	2021-04-30
2	62	pandas Essential Training	2021-04-28
3	61	Data Ingestion with Python	2021-04-21
4	60	Learning JDBC	2021-04-15
5	59	Cloud Native Development with Node.js, Docker,...	2021-04-11
6	58	MySQL Essential Training	2021-04-05
7	57	MySQL Installation and Configuration	2021-04-03
8	56	Learning Bash Scripting	2021-04-02

2.3 March 2021 Courses

```
[11]: mar21_records = df[df['date_completed'].between('2021-03-01','2021-03-31')]  
mar21_records['index'].count()
```

```
[11]: 10
```

```
[12]: mar21_records[['index','title','date_completed']].rename(columns={'index': '#',  
    ↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[12]:
```

	#	Course Title	Completion Date
9	55	Learning Windows Subsystem for Linux	2021-03-29
10	54	Blockchain Basics	2021-03-27
11	53	Designing RESTful APIs	2021-03-26
12	52	Learning Node.js	2021-03-25
13	51	Learning REST APIs	2021-03-19
14	50	Polyglot Web Development	2021-03-19
15	49	Python: XML, JSON, and the Web	2021-03-12
16	48	JavaScript and JSON: Integration Techniques	2021-03-08
17	47	JavaScript and AJAX: Integration Techniques	2021-03-06
18	46	Advanced PHP: Debugging Techniques	2021-03-03

2.4 February 2021 Courses

```
[13]: feb21_records = df[df['date_completed'].between('2021-02-01','2021-02-28')]  
feb21_records['index'].count()
```

```
[13]: 8
```

```
[14]: feb21_records[['index','title','date_completed']].rename(columns={'index': '#',
→'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[14]:      #                Course Title Completion Date
19  45                Docker for Data Scientists      2021-02-25
20  44  Docker for .NET Developers with Visual Studio  2021-02-24
21  43                Learning PHP      2021-02-23
22  42                Advanced Java Programming      2021-02-18
23  41                C#: Interfaces and Generics      2021-02-10
24  40                C#: Delegates, Events and Lambdas  2021-02-07
25  39                C#: Collections      2021-02-04
26  38                Leading without Formal Authority  2021-02-01
```

2.5 January 2021 Courses

```
[15]: jan21_records = df[df['date_completed'].between('2021-01-01','2021-01-31')]
jan21_records['index'].count()
```

```
[15]: 11
```

```
[16]: jan21_records[['index','title','date_completed']].rename(columns={'index': '#',
→'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[16]:      #                Course Title Completion Date
27  37                Excel: Lookup Functions in Depth  2021-01-29
28  36                Excel: Power Pivot for Beginners  2021-01-27
29  35                Excel: PivotTables for Beginners  2021-01-26
30  34  Implementing a Data Warehouse SQL Server 2019  2021-01-19
31  33                IoT Foundations: Fundamentals    2021-01-18
32  32                SQL Server: Reporting Services   2021-01-18
33  31                SQL Server Integration Services   2021-01-15
34  30                Learning MongoDB      2021-01-08
35  29                SAP ERP Essential Training (2018) 2021-01-07
36  28                HTML5: Geolocation      2021-01-03
37  27                Python Essential Training  2021-01-01
```

2.6 December 2020 Courses

```
[17]: dec20_records = df[df['date_completed'].between('2020-12-01','2020-12-31')]
dec20_records['index'].count()
```

```
[17]: 4
```

```
[18]: dec20_records[['index','title','date_completed']].rename(columns={'index': '#',
→'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[18]:      #                      Course Title Completion Date
38 26 Cloud Computing Careers and Certifications: Fi... 2020-12-24
39 25      Visual Studio Code for Python Developers 2020-12-21
40 24      jQuery for Web Designers 2020-12-19
41 23      JavaScript for Web Designers 2020-12-13
```

2.7 November 2020 Courses

```
[19]: nov20_records = df[df['date_completed'].between('2020-11-01','2020-11-30')]
nov20_records['index'].count()
```

```
[19]: 7
```

```
[20]: nov20_records[['index','title','date_completed']].rename(columns={'index': '#',
↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[20]:      #                      Course Title Completion Date
42 22      SQL Tips, Tricks, & Techniques 2020-11-28
43 21      Learning JavaScript Debugging 2020-11-27
44 20 Succeeding in Web Development: Full Stack and ... 2020-11-20
45 19      Innovative Customer Service Techniques 2020-11-20
46 18      Learning Docker 2020-11-20
47 17      Learning GitHub 2020-11-09
48 16      Learning C++ 2020-11-04
```

2.8 October 2020 Courses

```
[21]: oct20_records = df[df['date_completed'].between('2020-10-01','2020-10-31')]
oct20_records['index'].count()
```

```
[21]: 11
```

```
[22]: oct20_records[['index','title','date_completed']].rename(columns={'index': '#',
↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[22]:      #                      Course Title Completion Date
49 15      C# & .NET: Programming 2020-10-23
50 14 Java Essential Training: Objects and APIs 2020-10-20
51 13      Learning Java 2020-10-17
52 12      Installing Apache, MySQL, and PHP 2020-10-17
53 11      Learning Regular Expressions 2020-10-13
54 10      Learning the JavaScript Language 2020-10-12
55 9      Phone-Based Customer Service 2020-10-09
56 8      Introduction to CSS 2020-10-09
57 7      Working with Upset Customers 2020-10-08
58 6 Learn API Documentation with JSON and XML 2020-10-05
59 5      Learning Python 2020-10-03
```

2.9 September 2020 Courses

```
[23]: sep20_records = df[df['date_completed'].between('2020-09-01', '2020-09-30')]
      sep20_records['index'].count()
```

```
[23]: 4
```

```
[24]: sep20_records[['index', 'title', 'date_completed']].rename(columns={'index': '#',
      ↪ 'title': 'Course Title', 'date_completed': 'Completion Date'})
```

```
[24]:
```

	#	Course Title	Completion Date
60	4	Visual Studio Code for Web Developers	2020-09-30
61	3	Learning PowerShell	2020-09-26
62	2	Technical Writing: Quick Start Guides	2020-09-25
63	1	Learning Linux Command Line	2020-09-25

```
[ ]:
```

```
[ ]:
```