

## Data analytics project using udemy data set

```
DATAANALYTICSANDMACHINELEARNING - Jupyter Notebook
localhost:8888/notebooks/DATAANALYTICSANDMACHINELEARNING/udemydataset.ipynb
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In [74]: 1 import os
In [75]: 1 os.getcwd()
Out[75]: 'C:\\Users\\Lipsa Priyadarsinee\\DATAANALYTICSANDMACHINELEARNING'
In [76]: 1 import pandas as pd
In [77]: 1 data = pd.read_csv("C:\\Users\\Lipsa Priyadarsinee\\Downloads\\Udemydataset.csv")
In [78]: 1 data.head()
Out[78]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musical Instruments
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	1 hour	2017-04-12T19:06:34Z	Musical Instruments
2	1193886	#12 Hand Coordination: Let your Hand dance	True	75	482	1	47	Intermediate Level	1.5 hours	2017-04-26T18:34:57Z	Musical Instruments

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## Udemy offers all courses

```
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what are all different subjects udemy is offering courses

In [80]: 1 data.subject.unique()
Out[80]: array(['Musical Instruments', 'Business Finance', 'Graphic Design', 'Web Development'], dtype=object)

which subject is maximum number of courses

In [34]: 1 #data.subject.value_counts()
In [35]: 1 data.head(2)
Out[35]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musical Instruments
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	1 hour	2017-04-12T19:06:34Z	Musical Instruments

```
In [36]: 1 data.subject.value_counts()
Out[36]: Web Development    1200
         Business Finance    1199
```

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## What are the different courses Udemy is offer

```
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localhost:8888/notebooks/DATAANALYTICSANDMACHINELEARNING/udemycoursedataset.ipynb
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In [34]: 1 #data.subject.value_counts()
In [35]: 1 data.head(2)
Out[35]:
course_id  course_title  is_paid  price  num_subscribers  num_reviews  num_lectures  level  content_duration  published_timestamp  subject
0      288942  #1 Piano Hand Coordination: Play 10th Ballad L...  True      35           3137           18           68  All Levels      1.5 hours  2014-09-18T05:07:05Z  Musical Instruments
1      1170074  #10 Hand Coordination - Transfer Chord Ballad ...  True      75           1593            1           41  Intermediate Level  1 hour  2017-04-12T19:06:34Z  Musical Instruments
...
In [36]: 1 data.subject.value_counts()
Out[36]:
Web Development      1200
Business Finance     1199
Musical Instruments   680
Graphic Design        603
Name: subject, dtype: int64

show all the courses which are free of cost

In [37]: 1 data.head(2)
```

Show all the courses which are free course

```
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localhost:8888/notebooks/DATAANALYTICSANDMACHINELEARNING/udemycoursedataset.ipynb
File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)
In [37]: 1 data.head(2)
Out[37]:
course_id  course_title  is_paid  price  num_subscribers  num_reviews  num_lectures  level  content_duration  published_timestamp  subject
0      288942  #1 Piano Hand Coordination: Play 10th Ballad L...  True      35           3137           18           68  All Levels      1.5 hours  2014-09-18T05:07:05Z  Musical Instruments
1      1170074  #10 Hand Coordination - Transfer Chord Ballad ...  True      75           1593            1           41  Intermediate Level  1 hour  2017-04-12T19:06:34Z  Musical Instruments
...
In [38]: 1 data[data.is_paid == False]
Out[38]:
course_id  course_title  is_paid  price  num_subscribers  num_reviews  num_lectures  level  content_duration  published_timestamp  subject
41      286070  5 lecciones que todo guitarrista debe tomar  False  Free           4452           263           14  Beginner Level  1 hour  2014-08-23T05:08:14Z  Music Instrument
49      696630  7 Ways A Beginner Guitarist Can Sound Better, ...  False  Free           4529           193            7  Beginner Level  36 mins  2015-12-21T18:50:50Z  Music Instrument
57      955914  A beginner's guide to fingerpicking  False  Free           3481            29           20  Beginner Level  2 hours  2016-09-13T21:51:59Z  Music Instrument
```

Paid course

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```
In [39]: 1 data[data.is_paid == True]
```

```
Out[39]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musi Instrume
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	1 hour	2017-04-12T19:06:34Z	Musi Instrume
2	1193886	#12 Hand Coordination: Let your Hands dance wl...	True	75	482	1	47	Intermediate Level	1.5 hours	2017-04-26T18:34:57Z	Musi Instrume
3	1116700	#4 Piano Hand Coordination: Fun Piano Runs In ...	True	75	850	3	43	Intermediate Level	1 hour	2017-02-21T23:48:18Z	Musi Instrume
4	1120410	#5 Piano Hand Coordination: Piano Runs In 2 ...	True	75	940	3	32	Intermediate Level	37 mins	2017-02-21T23:44:49Z	Musi Instrume
...	...	...	...	...	...	...	...	...	...	...	...

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Selling courses in Udemy

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```
In [40]: 1 data.sort_values('num_subscribers', ascending=False)
```

```
Out[40]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
2230	41295	Learn HTML5 Programming From Scratch	False	Free	268923	8629	45	All Levels	10.5 hours	2013-02-14T07:03:41Z	Developm
776	59014	Coding for Entrepreneurs Basic	False	Free	161029	279	27	Beginner Level	3.5 hours	2013-06-09T15:51:55Z	Developm
3385	625204	The Web Developer Bootcamp	True	200	121584	27445	342	All Levels	43 hours	2015-11-02T21:13:27Z	Developm
640	173548	Build Your First Website in 1 Week with HTML5 ...	False	Free	120291	5924	30	Beginner Level	3 hours	2014-04-08T16:21:30Z	Developm
3316	764164	The Complete Web Developer Course 2.0	True	200	114512	22412	304	All Levels	30.5 hours	2016-03-08T22:28:36Z	Developm
...	...	...	...	...	...	...	...	...	...	...	...
2290	1223240	Learn Pirates of the Caribbean by Ear on the P...	True	20	0	0	6	All Levels	32 mins	2017-05-22T17:14:43Z	Musi Instrume
1257	1258666	Financial Statement	True	50	0	0	9	Intermediate	2 hours	2017-06-29T23:20:10Z	Busin

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Least selling course by udemy

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File Edit View Insert Cell Kernel Widgets Help Trusted Python 3 (ipykernel)

```
In [40]: 1 data.sort_values('num_subscribers',ascending= False)
```

Out[40]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
	2230	Learn HTML5 Programming From Scratch	False	Free	268923	8629	45	All Levels	10.5 hours	2013-02-14T07:03:41Z	Development
	776	Coding for Entrepreneurs Basic	False	Free	161029	279	27	Beginner Level	3.5 hours	2013-06-09T15:51:55Z	Development
	3385	The Web Developer Bootcamp	True	200	121584	27445	342	All Levels	43 hours	2015-11-02T21:13:27Z	Development
	640	Build Your First Website in 1 Week with HTML5 ...	False	Free	120291	5924	30	Beginner Level	3 hours	2014-04-08T16:21:30Z	Development
	3316	The Complete Web Developer Course 2.0	True	200	114512	22412	304	All Levels	30.5 hours	2016-03-08T22:28:36Z	Development
...	...	...	...	...	...	...	...	...	...	...	...
	2290	Learn Pirates of the Caribbean by Ear on the P...	True	20	0	0	6	All Levels	32 mins	2017-05-22T17:14:43Z	Musical Instruments
	1267	Financial Statement	True	50	0	0	0	Intermediate	2 hours	2017-06-28T23:20:10Z	Business

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show all the courses of graphic design where the price is below 100

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```
In [42]: 1 data.head(1)
```

Out[42]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musical Instruments

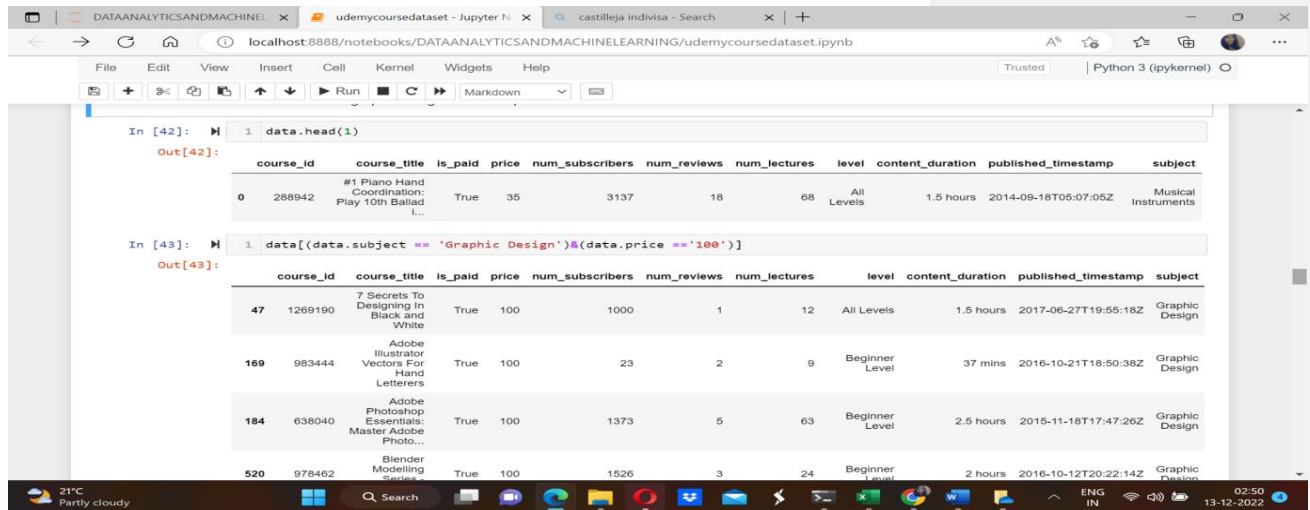
```
In [43]: 1 data[(data.subject == 'Graphic Design') & (data.price == '100')]
```

Out[43]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
47	1269190	7 Secrets To Designing In Black and White	True	100	1000	1	12	All Levels	1.5 hours	2017-06-27T19:55:18Z	Graphic Design
169	983444	Adobe Illustrator Vectors For Hand Letterers	True	100	23	2	9	Beginner Level	37 mins	2016-10-21T18:50:38Z	Graphic Design
184	638040	Adobe Photoshop Essentials: Master Adobe Photo...	True	100	1373	5	63	Beginner Level	2.5 hours	2015-11-18T17:47:26Z	Graphic Design
520	978462	Blender Modelling Series	True	100	1526	3	24	Beginner Level	2 hours	2016-10-12T20:22:14Z	Graphic Design

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Least out of all the courses that data related to python



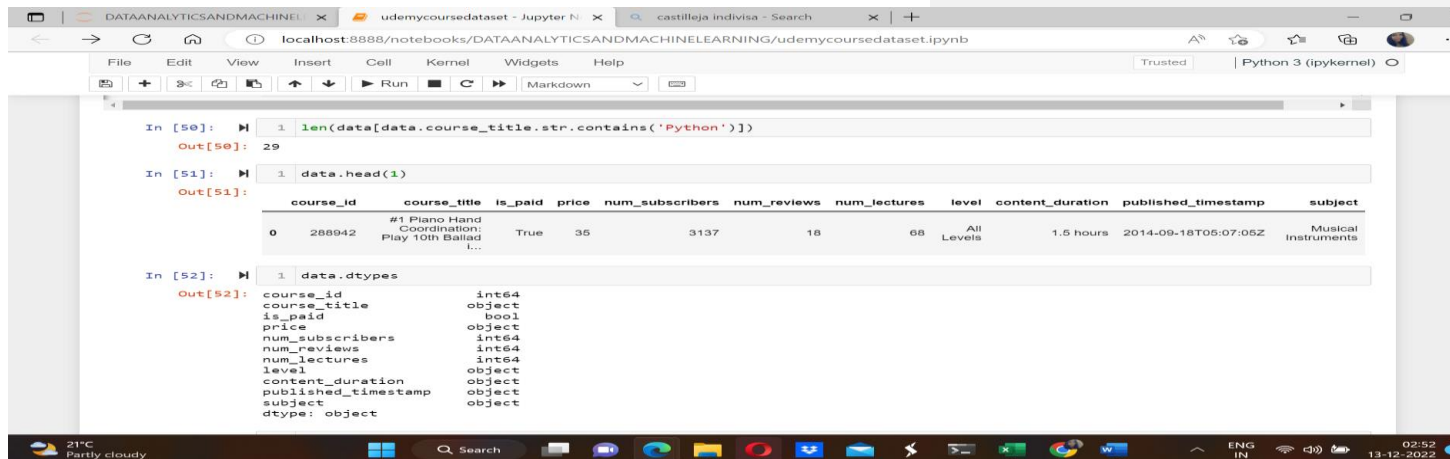
The screenshot shows a Jupyter Notebook interface with the following code and output:

```
In [42]: 1 data.head(1)
Out[42]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musical Instruments

```
In [43]: 1 data[(data.subject == 'Graphic Design') & (data.price == '100')]
Out[43]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
47	1269190	7 Secrets To Designing In Black and White	True	100	1000	1	12	All Levels	1.5 hours	2017-06-27T19:55:18Z	Graphic Design
169	983444	Adobe Illustrator Vectors For Hand Letterers	True	100	23	2	9	Beginner Level	37 mins	2016-10-21T18:50:38Z	Graphic Design
184	638040	Adobe Photoshop Essentials: Master Adobe Photo...	True	100	1373	5	63	Beginner Level	2.5 hours	2015-11-18T17:47:26Z	Graphic Design
520	978462	Blender Modelling Basics	True	100	1526	3	24	Beginner Level	2 hours	2016-10-12T20:22:14Z	Graphic Design



The screenshot shows a Jupyter Notebook interface with the following code and output:

```
In [50]: 1 len(data[data.course_title.str.contains('Python')])
Out[50]: 29

In [51]: 1 data.head(1)
Out[51]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject
0	288942	#1 Piano Hand Coordination: Play 10th Ballad L...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18T05:07:05Z	Musical Instruments

```
In [52]: 1 data.dtypes
Out[52]:
```

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject	dtype
												object
												object
												bool
												object
												int64
												int64
												object
												object
												object
												object

What are courses that published in year 2015

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```
In [59]: 1 data['Year'] = data['published_timestamp'].dt.year
```

```
In [60]: 1 data
```

```
Out[60]:
```

course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_duration	published_timestamp	subject	Year
288942	#1 Piano Hand Coordination: Play 10th Ballad I...	True	35	3137	18	68	All Levels	1.5 hours	2014-09-18 05:07:05+00:00	Musical Instruments	2014
1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	1 hour	2017-04-12 19:06:34+00:00	Musical Instruments	2017
1193886	#12 Hand Coordination: Let your Hands dance wi...	True	75	482	1	47	Intermediate Level	1.5 hours	2017-04-26 18:34:57+00:00	Musical Instruments	2017
1116700	#4 Piano Hand Coordination: Fun Piano Runs in ...	True	75	850	3	43	Intermediate Level	1 hour	2017-02-21 23:48:18+00:00	Musical Instruments	2017
1120410	#5 Piano Hand Coordination: Piano Runs	True	75	940	3	32	Intermediate Level	37 mins	2017-02-21 23:44:49+00:00	Musical Instruments	2017

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Search

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what are the maximum level of subscriber each level of courses

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```
In [66]: 1 data.level.unique()
```

```
Out[66]: array(['All Levels', 'Intermediate Level', 'Beginner Level', 'Expert Level'], dtype=object)
```

```
In [70]: 1 data.groupby('level')['num_subscribers'].max()
```

```
Out[70]:
```

level	num_subscribers
All Levels	268923
Beginner Level	161029
Expert Level	5172
Intermediate Level	29167

Name: num\_subscribers, dtype: int64

```
In [72]: 1 data.groupby('level').max()
```

```
Out[72]:
```

level	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	content_duration	published_timestamp	subject	Year
All Levels	1277924	6時間でインターネットバンク市場を攻略! 最短距離でトレード基礎力	True	Free	268923	27445	544	9.5 hours	2017-07-06 21:16:13+00:00	Web Development	2017
		7日でマスター ビジネス									

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Search

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```
In [72]: 1 data.groupby('level').max()
```

Out[72]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	content_duration	published_timestamp	subject	Yr
All Levels	1277924	6時間でイン ターバシ ンク市場を攻 略! 最短距 離でトレー ド基礎力	True	Free	268923	27445	544	9.5 hours	2017-07-06 21:16:13+00:00	Web Development	20
Beginner Level	1282064	7日でマス ター ビギナ ー向け Adobe Illustrator どきどきセ ミナー	True	Free	161029	5924	779	9.5 hours	2017-07-06 21:46:30+00:00	Web Development	20
Expert Level	1275790	[Value Investing] Where White People Keep Thei...	True	95	5172	249	157	9 hours	2017-07-04 18:08:01+00:00	Web Development	20
Intermediate Level	1276182	株式投資で 本当のテク ニカル分析	True	Free	29167	3326	320	9.5 hours	2017-07-05 04:41:54+00:00	Web Development	20

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