```
In [1]: import pandas as pd
```

```
In [2]: data=pd.read_csv(r"E:\new download\7. Udemy Courses.csv")
```

```
In [3]: data
```

Out[3]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	conte
0	288942	#1 Piano Hand Coordination: Play 10th Ballad i...	True	35	3137	18	68	All Levels	
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	
2	1193886	#12 Hand Coordination: Let your Hands dance wi...	True	75	482	1	47	Intermediate Level	
3	1116700	#4 Piano Hand Coordination: Fun Piano Runs in ...	True	75	850	3	43	Intermediate Level	
4	1120410	#5 Piano Hand Coordination: Piano Runs in 2 ...	True	75	940	3	32	Intermediate Level	
...	...	...	...	...	...	...	...	...	
3677	328960	Your Own Site in 45 Min: The Complete Wordpres...	True	120	1566	29	36	All Levels	
3678	552700	Your Second Course on Piano: Two Handed Playing	True	70	1018	12	22	Beginner Level	
3679	631754	Zend Framework 2: Learn the PHP framework ZF2 ...	True	40	723	130	37	All Levels	
3680	1225194	Zoho Books Gestion Financière d'Entreprise pas...	False	Free	229	0	33	All Levels	
3681	964478	Zombie Apocalypse Photoshop Actions	True	50	12	1	15	All Levels	

3682 rows × 11 columns

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Q.1) What are all different subjects for which Udemy is offering courses?

```
In [4]:  data.columns
```

```
Out[4]:  Index(['course_id', 'course_title', 'is_paid', 'price', 'num_subscribers',
                'num_reviews', 'num_lectures', 'level', 'content_duration',
                'published_timestamp', 'subject'],
               dtype='object')
```

```
In [5]:  data.groupby('subject').sum()
```

Out[5]:

subject	course_id	is_paid	num_subscribers	num_reviews	num_lectures
Business Finance	774454954	1103	1870747	75916	38755
Graphic Design	434324774	568	1063148	37070	19329
Musical Instruments	434280946	634	846689	31724	26055
Web Development	848225101	1067	7980572	430025	63381

```
In [6]:  data.subject.unique()
```

```
Out[6]:  array(['Musical Instruments', 'Business Finance', 'Graphic Design',
                'Web Development'], dtype=object)
```

Q.2) Which subject has maximum number of courses.

```
In [7]:  data.subject.value_counts()
```

```
Out[7]:  Web Development        1200
         Business Finance       1199
         Musical Instruments     680
         Graphic Design          603
         Name: subject, dtype: int64
```

Q.3) Show all the courses which are free of cost.

```
In [8]:  data[data.is_paid==False]
```

Out[8]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	conter
41	286070	5 lecciones que todo guitarrista debe tomar	False	Free	4452	263	14	Beginner Level	
49	696630	7 Ways A Beginner Guitarist Can Sound Better, ...	False	Free	4529	193	7	Beginner Level	
57	955914	A beginner`s guide to fingerpicking and strumm...	False	Free	3481	29	20	Beginner Level	
67	270976	A how to guide in HTML	False	Free	7318	205	8	Beginner Level	
74	1214144	¡Triunfar en La Bolsa de Valores No Requiere d...	False	Free	338	7	6	Beginner Level	
...	...	...	...	...	...	...	...	...	
3620	552598	WordPress in under an hour - Create/manage you...	False	Free	6474	86	15	All Levels	
3638	1068590	Wordpress Website Mastery 2017	False	Free	5181	64	22	Beginner Level	
3652	752706	Write quicker HTML5 and CSS 3; productivity ha...	False	Free	13016	286	15	All Levels	
3674	1257976	Your First 10 Guitar Lessons - Learn how to pl...	False	Free	924	4	18	Beginner Level	
3680	1225194	Zoho Books Gestion Financière d'Entreprise pas...	False	Free	229	0	33	All Levels	

310 rows × 11 columns

Q.4) Show all the courses which are paid.

In [9]:
```python
data[data.is_paid==True]
```

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Out[9]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	conte
0	288942	#1 Piano Hand Coordination: Play 10th Ballad i...	True	35	3137	18	68	All Levels	
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	
2	1193886	#12 Hand Coordination: Let your Hands dance wi...	True	75	482	1	47	Intermediate Level	
3	1116700	#4 Piano Hand Coordination: Fun Piano Runs in ...	True	75	850	3	43	Intermediate Level	
4	1120410	#5 Piano Hand Coordination: Piano Runs in 2 ...	True	75	940	3	32	Intermediate Level	
...	...	...	...	...	...	...	...	...	
3676	498488	Your First Successful Forex Trades - With Case...	True	200	1079	34	16	All Levels	
3677	328960	Your Own Site in 45 Min: The Complete Wordpres...	True	120	1566	29	36	All Levels	
3678	552700	Your Second Course on Piano: Two Handed Playing	True	70	1018	12	22	Beginner Level	
3679	631754	Zend Framework 2: Learn the PHP framework ZF2 ...	True	40	723	130	37	All Levels	
3681	964478	Zombie Apocalypse Photoshop Actions	True	50	12	1	15	All Levels	

3372 rows × 11 columns

Q.5) Which are the top selling courses?

In [10]:
```
data.columns
```

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```
Out[10]:   Index(['course_id', 'course_title', 'is_paid', 'price', 'num_subscribers',
                  'num_reviews', 'num_lectures', 'level', 'content_duration',
                  'published_timestamp', 'subject'],
                 dtype='object')
```

```
In [11]:   data.sort_values(by='num_subscribers', ascending= False)
```

Out[11]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	cont
2230	41295	Learn HTML5 Programming From Scratch	False	Free	268923	8629	45	All Levels	
776	59014	Coding for Entrepreneurs Basic	False	Free	161029	279	27	Beginner Level	
3385	625204	The Web Developer Bootcamp	True	200	121584	27445	342	All Levels	
640	173548	Build Your First Website in 1 Week with HTML5 ...	False	Free	120291	5924	30	Beginner Level	
3316	764164	The Complete Web Developer Course 2.0	True	200	114512	22412	304	All Levels	
...	...	...	...	...	...	...	...	...	
2290	1223240	Learn Pirates of the Caribbean by Ear on the P...	True	20	0	0	6	All Levels	
1267	1258666	Financial Statement Auditing Cycles	True	50	0	0	9	Intermediate Level	
2070	1215926	Kickstarter success in 5 easy steps	True	20	0	0	12	All Levels	
1931	1247992	Introduction to Project Management for Finance...	True	50	0	0	9	Beginner Level	
3165	1087466	Stop Creditors from Harassing you and Avoid Ba...	True	20	0	0	7	Beginner Level	

3682 rows × 11 columns

Q.6) which are least selling courses?

```
In [12]:   data.sort_values(by='num_subscribers', ascending= True).head(73)
```

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Out[12]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	conte...
649	1233314	Building a Balanced Scorecard	True	50	0	0	11	Intermediate Level	
3259	1232282	The Cash Flow Statement - An Introduction	True	50	0	0	10	Beginner Level	
3261	1275872	The Complete Adobe Spark Course	True	150	0	0	29	All Levels	
910	726314	Create Beautiful Image Maps for Your Website	True	20	0	0	8	Intermediate Level	
3328	715476	The Cuckoo Strategy to get European Funding	True	160	0	0	6	All Levels	
...	...	...	...	...	...	...	...	...	
2834	1249146	Planning and Executing a Financial Statement A...	True	50	0	0	9	Intermediate Level	
786	1177156	Como Criar Logos de Sucesso - Start Designer	True	25	0	0	29	Beginner Level	
1128	672086	誰でもわかる Adobe Photoshop CS5	True	20	1	0	14	Beginner Level	
258	518188	An Easy Introduction to Adobe Photoshop	True	20	1	0	6	Beginner Level	
182	986832	Adobe Photoshop CC Introduction	True	30	1	0	55	Beginner Level	

73 rows × 11 columns

Q.7) Show all courses of graphic design where the price is below 100.

In [13]:
```python
data[(data.subject=='Graphic Design') & (data.price>'100')]
```

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	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	con
8	206592	:::Beginners Guide To Creating Amazing Images ...	True	25	72	5	17	Beginner Level	
20	1165268	15 Motion Graphic Elements in After Effect (S...	True	30	8	0	20	Intermediate Level	
35	1164876	3DS MAX - Learn 3Ds MAX tutorial for Beginners...	True	20	785	2	29	All Levels	
39	599652	48 Logo Designs and Techniques	True	20	113	9	48	All Levels	
52	794036	8 Stunden professionelles Cinema 4D Training	True	50	18	1	38	All Levels	
...	...	...	...	...	...	...	...	...	
3568	133968	Web Elements Design With Photoshop	True	45	5072	38	44	All Levels	
3588	1131780	Whiteboard Animation, Beginner To Expert - In ...	True	20	1343	25	16	All Levels	
3639	1122306	Wordpress: Comment utiliser le thème FABLE	True	20	1	0	10	Beginner Level	
3671	144222	YOU can Draw, Shade and Paint a Mixed Media Gi...	True	30	1249	44	19	Beginner Level	
3681	964478	Zombie Apocalypse Photoshop Actions	True	50	12	1	15	All Levels	

580 rows × 11 columns

Q.8) List out all the courses that are related with 'Python'.

```python
len(data[data.course_title.str.contains('Python')])
```

29

Q.9) What are courses that published in year 2015.

```
In [15]:    data.columns
```

```
Out[15]:    Index(['course_id', 'course_title', 'is_paid', 'price', 'num_subscribers',
                   'num_reviews', 'num_lectures', 'level', 'content_duration',
                   'published_timestamp', 'subject'],
                  dtype='object')
```

```
In [16]:    data.dtypes
```

```
Out[16]:    course_id               int64
            course_title           object
            is_paid                  bool
            price                  object
            num_subscribers         int64
            num_reviews             int64
            num_lectures            int64
            level                  object
            content_duration       object
            published_timestamp    object
            subject                object
            dtype: object
```

```
In [17]:    data['published_timestamp']=pd.to_datetime(data.published_timestamp)
```

```
In [18]:    data.dtypes
```

```
Out[18]:    course_id                         int64
            course_title                     object
            is_paid                            bool
            price                            object
            num_subscribers                   int64
            num_reviews                       int64
            num_lectures                      int64
            level                            object
            content_duration                 object
            published_timestamp    datetime64[ns, UTC]
            subject                          object
            dtype: object
```

```
In [19]:    data['Year']=data['published_timestamp'].dt.year
```

```
In [20]:    data.head()
```

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Out[20]:

	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	content_
0	288942	#1 Piano Hand Coordination: Play 10th Ballad i...	True	35	3137	18	68	All Levels	
1	1170074	#10 Hand Coordination - Transfer Chord Ballad ...	True	75	1593	1	41	Intermediate Level	
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3	1116700	#4 Piano Hand Coordination: Fun Piano Runs in ...	True	75	850	3	43	Intermediate Level	
4	1120410	#5 Piano Hand Coordination: Piano Runs in 2 ...	True	75	940	3	32	Intermediate Level	

In [22]:
```python
data[data.Year==2015]
```

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	course_id	course_title	is_paid	price	num_subscribers	num_reviews	num_lectures	level	conte
10	591880	1 - Concepts of Statistics For Beginners Step ...	True	200	273	4	15	Beginner Level	
16	302450	10 Numbers Every Business Owner Should Know	True	20	13	1	9	All Levels	
19	384928	101 Blues riffs - learn how the harmonica supe...	True	200	1350	65	55	Intermediate Level	
23	550842	16 Guitar Chords to Jam With - (Beginner - Int...	True	20	1224	19	20	Beginner Level	
26	486240	2 Easy Steps To Investment And Avoiding Traps	True	20	828	1	20	All Levels	
...	...	...	...	...	...	...	...	...	
3675	551170	Your First Course on Piano	True	70	2002	34	33	Beginner Level	
3676	498488	Your First Successful Forex Trades - With Case...	True	200	1079	34	16	All Levels	
3677	328960	Your Own Site in 45 Min: The Complete Wordpres...	True	120	1566	29	36	All Levels	
3678	552700	Your Second Course on Piano: Two Handed Playing	True	70	1018	12	22	Beginner Level	
3679	631754	Zend Framework 2: Learn the PHP framework ZF2 ...	True	40	723	130	37	All Levels	

1014 rows × 12 columns

Q.10) What are the maximum numbers of subscribers for each level of courses?

```
In [24]: data.groupby('level')['num_subscribers'].max()
```

```
Out[24]: level
         All Levels          268923
         Beginner Level      161029
         Expert Level          5172
         Intermediate Level   29167
         Name: num_subscribers, dtype: int64
```

```
In [ ]:
```