Udemy Courses Dataset

This dataset contains all courses data. We will analyze the data using pandas library of python

```
#we're importig pandas library to perform the
import pandas as pd
analysis
#importing csv fie dataset
udemy=pd.read csv('file.csv')
#checking the data
udemy
                                                       course title
      course id
is paid
                 #1 Piano Hand Coordination: Play 10th Ballad i...
         288942
0
True
        1170074
                 #10 Hand Coordination - Transfer Chord Ballad ...
1
True
        1193886 #12 Hand Coordination: Let your Hands dance wi...
True
                 #4 Piano Hand Coordination: Fun Piano Runs in ...
        1116700
True
                     Piano Hand Coordination: Piano Runs in 2 ...
        1120410
True
. . .
                 Your Own Site in 45 Min: The Complete Wordpres...
         328960
3677
True
3678
         552700
                   Your Second Course on Piano: Two Handed Playing
True
3679
         631754
                 Zend Framework 2: Learn the PHP framework ZF2 ...
True
3680
        1225194
                 Zoho Books Gestion Financière d'Entreprise pas...
False
3681
         964478
                                Zombie Apocalypse Photoshop Actions
True
     price
            num subscribers
                             num reviews
                                           num lectures
level
        35
                                                                 All
0
                       3137
                                       18
                                                     68
Levels
        75
                                                         Intermediate
                       1593
                                                     41
Level
        75
                        482
                                                     47
                                                         Intermediate
Level
        75
                        850
                                                     43
                                                         Intermediate
Level
```

4 75	940	3	32 Int	ermediate
Level				
 3677 120	1566	29	36	All
Levels 3678 70	1018	12	22	Beginner
Level				
3679 40 Levels	723	130	37	All
3680 Free Levels	229	0	33	All
3681 50 Levels	12	1	15	All
	5 hours 2014-09-1		Musical Instru	
1 1.			Musical Instru Musical Instru	
3	1 hour 2017-02-2	21T23:48:18Z M	Musical Instru Musical Instru	ıments
3678	5 hours 2015-10-2		Web Develo Musical Instru	iments
		l1T18:55:45Z 26T16:45:55Z	Web Develo Business Fi	
3681 1.	5 hours 2016-09-2	26T22:19:48Z	Graphic D	esign
[3682 rows x 1	1 columns]			

1. What are the different subjects offered by udemy?

```
udemy.head(5)
   course_id
                                                   course_title
is_paid \
     288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
1
True
     1193886 #12 Hand Coordination: Let your Hands dance wi...
True
             #4 Piano Hand Coordination: Fun Piano Runs in ...
     1116700
True
                Piano Hand Coordination: Piano Runs in 2 ...
     1120410 #5
True
```

```
price num subscribers num reviews num lectures
level \
     35
                    3137
                                   18
                                                 68
                                                             All
Levels
     75
                    1593
                                    1
                                                 41
                                                     Intermediate
Level
     75
                     482
                                                     Intermediate
                                                 47
Level
     75
                     850
                                    3
                                                 43
                                                     Intermediate
Level
     75
                     940
                                    3
                                                 32 Intermediate
Level
  content duration    published_timestamp
                                                      subject
         1.5 hours 2014-09-18T05:07:05Z Musical Instruments
1
            1 hour 2017-04-12T19:06:34Z
                                          Musical Instruments
2
         1.5 hours 2017-04-26T18:34:57Z Musical Instruments
3
            1 hour 2017-02-21T23:48:18Z Musical Instruments
           37 mins 2017-02-21T23:44:49Z Musical Instruments
udemy['subject'].nunique()
4
udemy['subject'].unique()
array(['Musical Instruments', 'Business Finance', 'Graphic Design',
       'Web Development'], dtype=object)
```

2. What subjects have maximum number of courses?

```
udemy.head(2)
   course id
                                                   course title
is_paid \
      288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
True
  price num subscribers num reviews num lectures
level \
                                                             All
                                                 68
     35
                    3137
                                   18
Levels
                    1593
                                                 41
                                                     Intermediate
     75
Level
  content duration
                     published timestamp
                                                      subject
```

9 1	1.5 hours 1 hour			al Inst al Inst	
udemy['s	ubject'].va	lue_counts()			
Graphic [Finance Instruments	1200 1199 680 603 e: int64			
udemy.gr	oupby('subj	ect').count()			
num_subso subject	cribers \	course_id cou	rse_title i	s_paid	price
Business 1199	Finance	1199	1199	1199	1199
Graphic [503	Design	603	603	603	603
	Instruments	680	680	680	680
Neb Deve 1200	lopment	1200	1200	1200	1200
content_c subject	duration \	num_reviews n	um_lectures	level	
Business 1199	Finance	1199	1199	1199	
Graphic [503	Design	603	603	603	
Musical I	Instruments	680	680	680	
580 Web Deve 1200	lopment	1200	1200	1200	
subject		published_time	stamp		
subject Business Graphic I Musical I Web Deve	Design Instruments		1199 603 680 1200		

Web development is the required answer

3. Show all the courses which are free.

```
udemy.head(2)
                                                   course title
   course id
is paid ∖
      288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
True
  price num subscribers
                          num reviews num lectures
level \
    35
                                                             All
                    3137
                                                 68
                                   18
Levels
                    1593
                                    1
                                                 41
                                                     Intermediate
1
     75
Level
  content duration published timestamp
                                                      subject
         1.5 hours 2014-09-18T05:07:05Z
0
                                          Musical Instruments
            1 hour 2017-04-12T19:06:34Z Musical Instruments
1
udemy[udemy['is paid']==False]
      course id
                                                      course title
is_paid
41
         286070
                       5 lecciones que todo quitarrista debe tomar
False
49
         696630
                 7 Ways A Beginner Guitarist Can Sound Better, ...
False
                 A beginner's guide to fingerpicking and strumm...
57
         955914
False
67
         270976
                                            A how to guide in HTML
False
                 ¡Triunfar en La Bolsa de Valores No Requiere d...
74
        1214144
False
. . .
. . .
3620
         552598
                 WordPress in under an hour - Create/manage you...
False
3638
        1068590
                                    Wordpress Website Mastery 2017
False
         752706 Write guicker HTML5 and CSS 3; productivity ha...
3652
False
3674
        1257976 Your First 10 Guitar Lessons - Learn how to pl...
False
        1225194 Zoho Books Gestion Financière d'Entreprise pas...
3680
False
     price num subscribers num reviews num lectures
                                                                 level
/
```

41	Free	4452	263	14 Beginner Level
49	Free	4529	193	7 Beginner Level
57	Free	3481	29	20 Beginner Level
67	Free	7318	205	8 Beginner Level
74	Free	338	7	6 Beginner Level
3620	Free	6474	86	15 All Levels
3638	Free	5181	64	22 Beginner Level
3652	Free	13016	286	15 All Levels
3674	Free	924	4	18 Beginner Level
3680	Free	229	0	33 All Levels
41 49 57 67 74 3620 3638 3652 3674 3680	content_duration 1 hour 36 mins 2 hours 35 mins 1 hour 1 hour 2.5 hours 1 hours 1 hours	2014-08-2 2015-12-2 2016-09-1 2014-08-1 2017-05-3 2015-07-1 2017-01-1 2016-03-0 2017-06-2 2017-05-2	d_timestamp 3T05:08:14Z 1T18:50:50Z 3T21:51:59Z 0T20:19:10Z 0T14:30:12Z 5T00:21:56Z 8T17:01:40Z 3T17:45:31Z 9T00:29:36Z 6T16:45:55Z	subject Musical Instruments Musical Instruments Musical Instruments Web Development Business Finance Web Development Web Development Web Development Musical Instruments Business Finance
[310	rows x 11 columns	s]		

4. Show all paid courses.

3 True	1116706) #4 Pian	o Hand (Coordinat	ion: Fun	Piano F	Runs in
4	1120410) #5 Pia	no Hand	Coordina	tion: Pi	lano Rui	ns in 2
True							
	• • • •						
3676 True	498488	3 Your Fi	rst Suc	cessful F	orex Trac	des - Wi	ith Case
3677 True	328966) Your Ow	n Site :	in 45 Min	: The Con	nplete N	Nordpres
3678	552700) Your	Second (Course on	Piano: 1	wo Hand	ded Playing
True 3679	631754	l 7end Fr	amework	2. Learn	the PHP	framewo	ork ZF2
True							
3681 True	964478	3	2	Zombie Ap	ocalypse	Photosh	nop Actions
					_		
pr level	rice num \	n_subscrib	ers nur	n_reviews	num_led	ctures	
0	`35	3	137	18		68	All
Levels 1	75	1	.593	1		41	Intermediate
Level 2	75		482	1		47	Intermediate
Level							
3 Level	75		850	3		43	Intermediate
4	75		940	3		32	Intermediate
Level							
2676	200	1	.079	2.4		16	A11
3676 Levels	200	1	.079	34		16	All
3677 Levels	120	1	566	29		36	All
3678	70	1	018	12		22	Beginner
Level 3679	40		723	130		37	All
Levels							
3681 Levels	50		12	1		15	All
6.6	ntont di	ıration	nublich	ad timact	-mn		cubiost
	ontent_du 1.5	hours 2	014-09-	ed_timest: 18T05:07:	95Z Musi		subject struments
1	1 5			12T19:06:3 26T18:34:			struments struments
0 1 2 3 4		1 hour 2	017-02-2	21T23:48:	18Z Musi	cal Ins	struments
4	3	37 mins 2	017-02-2	21T23:44:	49Z Musi	cal Ins	struments

```
3676
            2.5 hours 2015-05-26T20:48:48Z
                                                Business Finance
3677
              4 hours 2015-04-20T22:15:17Z
                                                 Web Development
3678
              5 hours
                       2015-10-26T20:04:21Z
                                             Musical Instruments
                       2015-11-11T18:55:45Z
3679
            6.5 hours
                                                 Web Development
3681
            1.5 hours 2016-09-26T22:19:48Z
                                                  Graphic Design
[3372 rows x 11 columns]
```

5. Which are top selling courses?

```
udemy.head(2)
   course id
                                                    course title
is paid \
      288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
True
  price num subscribers num reviews num lectures
level \
     35
                                                              All
                    3137
                                    18
                                                  68
Levels
                    1593
                                                  41
                                                      Intermediate
     75
Level
  content duration
                   published timestamp
                                                       subject
0
         1.5 hours
                    2014-09-18T05:07:05Z
                                          Musical Instruments
1
            1 hour
                    2017-04-12T19:06:34Z Musical Instruments
#for top courses we'll use sort values
udemy.sort values('num subscribers',ascending=False)
      course id
                                                       course title
is paid \
22\overline{30}
          41295
                              Learn HTML5 Programming From Scratch
False
          59014
776
                                     Coding for Entrepreneurs Basic
False
         625204
3385
                                         The Web Developer Bootcamp
True
640
         173548
                 Build Your First Website in 1 Week with HTML5 ...
False
3316
         764164
                             The Complete Web Developer Course 2.0
True
        1223240 Learn Pirates of the Caribbean by Ear on the P...
2290
True
                                Financial Statement Auditing Cycles
1267
        1258666
```

True					
2070	1215926		Kickstarte	er success in !	5 easy steps
True 1931	1247992	Introducti	on to Project	Management fo	r Financo
True	124/992	Incloducti	on to Project	Management 10	rinance
3165	1087466	Stop Credi	tors from Hara	assing you and	Avoid Ba
True		0.00p 0.00=		accing you ama	
				_	
•		subscribers	num_reviews	num_lectures	
level 2230 F	`\ Free	268923	8629	45	All
Levels	166	200923	0029	43	Acc
	ree	161029	279	27	Beginner
Level					-
3385	200	121584	27445	342	All
Levels 640 F	Eroo	120201	5024	20	Beginner
Level	ree	120291	5924	30	бедтинет
3316	200	114512	22412	304	All
Levels		_			
2200	20	0	0	C	A11
2290 Levels	20	0	0	6	All
1267	50	0	0	9	Intermediate
Level					
2070	20	0	0	12	All
Levels	Ε0	0	0	0	Doodnoor
1931 Level	50	0	0	9	Beginner
3165	20	0	0	7	Beginner
Level		_	_		
2230	ontent_dur 10.5		lished_timesta -02-14T07:03:4		subject
776			-06-09T15:51:5		evelopment evelopment
3385			-11-02T21:13:2		evelopment
640			-04-08T16:21:3		evelopment
3316	30.5	hours 2016	-03-08T22:28:3	36Z Web Do	evelopment
2200	22		OF 22T17-14-	 427 M	
2290 1267			- 05 - 22T17:14:4 - 06 - 29T23:20:1		nstruments ss Finance
2070			-05-16T14:55:2		ss Finance
1931			-07-03T21:40:3		ss Finance
3165	37	mins 2017	-02-02T16:22:3	B7Z Busine	ss Finance
[2602]	courc v 11	columns 1			
[3002]	rows x 11	Co culli15 J			

6. Which are least selling courses?

O. 11	ilicii u	i e teases	setting co	a1505.	
udemy.s	sort_value	es('num_subsc	ribers')		
is_paid	course_id			C	ourse_title
649	1233314		Buil	ding a Balance	d Scorecard
True 3259	1232282	The	Cash Flow St	atement - An I	ntroduction
True 3261	1275872		The Co	mplete Adobe S	park Course
True 910	726314	Create	Beautiful Im	age Maps for Y	our Website
True 3328 True	715476	The C	uckoo Strateg	y to get Europ	ean Funding
3316	764164		The Complete	Web Developer	Course 2.0
True 640 False	173548	Build Your	First Website	in 1 Week wit	h HTML5
3385 True	625204		Т	he Web Develop	er Bootcamp
776	59014		Codin	g for Entrepre	neurs Basic
False 2230	41295		Learn HTML5	Programming F	rom Scratch
False					
•	rice num_	_subscribers	num_reviews	num_lectures	
level	50	0	0	11	Intermediate
Level 3259	50	0	0	10	Beginner
Level 3261	150	0	0	29	All
Levels 910	20	Θ	0	8	Intermediate
Level 3328	160	0	0	6	All
Levels					
2216	200	114512	22412	204	411
3316 Levels	200	114512	22412	304	All
640 I Level	ree	120291	5924	30	Beginner
3385 Levels	200	121584	27445	342	All
	ree	161029	279	27	Beginner

Level					
2230 Free	2	68923	8629	45	All
Levels					
content	duration	published_t	imestamp	subject	
649	2 hours	2017-07-03T2	1:38:22Z	Business Finance	
3259	1.5 hours	2017-06-28T1	.6:05:51Z	Business Finance	
3261	2 hours	2017-07-03T1	.7:39:57Z	Graphic Design	
910	37 mins	2016-01-18T1	7:56:36Z	Graphic Design	
3328	1 hour	2016-01-06T0	2:38:23Z	Business Finance	
3316 36	9.5 hours	2016-03-08T2	2:28:36Z	Web Development	
640	3 hours	2014-04-08T1	.6:21:30Z	Web Development	
3385	43 hours	2015-11-02T2	1:13:27Z	Web Development	
	3.5 hours	2013-06-09T1	.5:51:55Z	Web Development	
2230 16	0.5 hours	2013-02-14T0	7:03:41Z	Web Development	
[2002	11	- 1			
[3682 rows x	II COLUMN	S]			

7. Show all the graphic designing course where price is less than 100.

```
udemy.head(2)
   course id
                                                    course title
is_paid \
      288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
True
  price num_subscribers num_reviews num_lectures
level \
                                                              All
     35
                    3137
                                   18
                                                  68
Levels
                    1593
                                                  41
                                                     Intermediate
    75
Level
  content_duration    published_timestamp
                                                       subject
         1.5 hours 2014-09-18T05:07:05Z Musical Instruments
0
            1 hour 2017-04-12T19:06:34Z Musical Instruments
udemy[(udemy['subject']=='Graphic Design')&(udemy['price']<'100')]</pre>
Empty DataFrame
Columns: [course id, course title, is paid, price, num subscribers,
num reviews, num lectures, level, content duration,
```

```
published_timestamp, subject]
Index: []
```

So no required courses are there

8. List out all course related to 'python'.

```
udemy.head(2)
   course id
                                                   course title
is paid \
      288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
1
True
  price num subscribers num reviews
                                       num lectures
level \
     35
                    3137
                                   18
                                                             All
Levels
     75
                    1593
                                                 41
                                                     Intermediate
Level
  content duration published timestamp
                                                      subject
                    2014-09-18T05:07:05Z
0
         1.5 hours
                                          Musical Instruments
            1 hour 2017-04-12T19:06:34Z Musical Instruments
1
udemy[udemy['course_title'].str.contains('Python')]
      course id
                                                      course title
is paid
216
         599504 Advanced Scalable Python Web Development Using...
True
777
          47963
                 Coding for Entrepreneurs: Learn Python, Django...
True
814
         631128
                 Complete Python Web Course: Build 8 Python Web...
True
842
         186096
                 Core: A Web App Reference Guide for Django, Py...
True
1400
         394832 Fun and creative web engineering with Python a...
False
1932
        1038538
                           Introduction to QGIS Python Programming
True
         902888
                         Investment Portfolio Analysis with Python
1969
True
2294
         391546
                       Learn Python and Django: Payment Processing
True
        1063722
                           Learn Python Django - A Hands-On Course
2295
True
```

2341	546848	Learn to co	de in Python a	nd learn Adob	e Photos
True	260240	D ('	7 5		
2906	368340	Professio	nal Python Web	Development	Using Flask
True	1005040	D ('	. DECT (1 ADT		D
2908	1035940	Professiona	l RESTful API	Design using	Python F
True					
2929	270808		Proje	cts in Django	and Python
True			a		
2952	1170894	Python Algo	Stock Trading	: Automate Yo	ur Trading!
True					
2953	1070886	Pyth	on Algo Tradin	g: FX Trading	with Oanda
True					
2954	1196544	Python Alg	o Trading: Sen	timent Tradin	g with News
True					_
2955	822444	Python and	Django Full St	ack Web Devel	oper Boo
True					
2956	477702	Python for	Beginners: Pyt	hon Programmi	ng Langu
True					_
2957	1035472	Python for	Finance: Inves	tment Fundame	ntals &
True					
2958	529828		Python	for Trading	& Investing
True				<u>-</u>	
2959	70640	Python Prog	ramming: Creat	e an Digital	Marketpl
True					
2960	523312			Python Web	Programming
True		_			
2962	1088656	Qua	ntitative Trad	ing Analysis	with Python
True	0=000				
3013	970600		REST AP	Is with Flask	and Python
True	015400		C		6
3154	815482		Stock Techni	cal Analysis	with Python
True	020560	TI 6 1 .	E.I. 1 II I		0 0 11
3272	938560	The Complet	e Ethical Hack	ing Course 2.	0: Pytho
True	76050	T 5:	101011	D1 1 1	D 11
3460	76052	iry Django	1.9 Build a	Blog and Lear	n Python
True	16646				' B
3573	16646		Web	Programming	with Python
True	F74000				
3574	574082	web S	craping with P	ython, Ruby &	import. 10
True					
				1	
	. –	subscribers	num_reviews	num_lectures	
level	120	1200	FG	71	Intormodiata
216	120	1299	56	71	Intermediate
Level	105	22412	700	251	A 7 7
777	195	23412	799	251	All
Levels		7400	0.41	170	A11
814	110	7489	941	173	All
Levels					

	195	2497	98	154	All
Levels 1400 F	ree	10917	319	25	All
Levels 1932	85	197	26	28	Beginner
Level					-
1969 Levels	50	209	13	37	All
2294	70	17714	198	23	All
Levels 2295	50	1339	21	18	Beginner
Level					-
2341 Levels	50	1132	1	29	All
2906	120	3420	489	102	Beginner
Level 2908	120	578	25	36	Intermediate
Level	120	376	25	30 .	Intermediate
2929	60	1764	53	28	All
Levels 2952	95	1165	21	41	Beginner
Level					-
2953 Level	200	453	42	33	Intermediate
	200	294	19	42	All
Levels 2955	200	11022	1002	191	All
Levels	200	11832	1883	191	ALL
	150	6153	125	84	Beginner
Level 2957	195	3811	278	103	All
Levels					
2958 Levels	95	638	25	36	All
	195	4198	145	161	All
Levels 2960	100	1020	46	60	Beginner
Level	100	1020	40	00	Бедтинет
2962	50	256	17	49	All
Levels 3013	110	5151	737	115	Intermediate
Level					
3154 Levels	50	409	35	46	All
3272	195	7827	268	66	All
Levels 3460	50	7407	172	147	All
Levels					
3573	50	35267	217	53	All

```
Levels
3574
                         973
                                       50
                                                      46
                                                                   All
        75
Levels
     content duration
                         published timestamp
                                                        subject
216
             14 hours
                        2016-08-11T22:09:24Z
                                                Web Development
777
                        2013-04-08T00:46:14Z
                                                Web Development
             45 hours
814
             16 hours
                        2015-11-08T20:57:35Z
                                                Web Development
                        2014-05-29T00:58:43Z
             26 hours
                                                Web Development
842
                        2015-06-09T19:51:50Z
1400
              2 hours
                                                Web Development
1932
            3.5 hours
                        2016-12-22T00:11:22Z
                                                Web Development
                        2016-07-13T21:40:32Z
                                               Business Finance
1969
              7 hours
2294
            3.5 hours
                        2015-02-09T15:37:56Z
                                                Web Development
2295
              2 hours
                        2017-01-18T21:53:34Z
                                                Web Development
2341
              2 hours
                        2015-07-08T00:15:12Z
                                                 Graphic Design
2906
           14.5 hours
                        2015-03-04T00:10:36Z
                                                Web Development
2908
            4.5 hours
                       2017-01-11T21:15:25Z
                                                Web Development
            6.5 hours
2929
                        2014-10-21T07:58:07Z
                                                Web Development
2952
            2.5 hours
                        2017-05-28T23:41:03Z
                                               Business Finance
2953
              3 hours
                        2017-03-14T00:39:45Z
                                               Business Finance
2954
              7 hours
                        2017-04-28T16:41:44Z
                                               Business Finance
           31.5 hours
2955
                        2017-02-24T18:40:55Z
                                                Web Development
2956
              5 hours
                        2015-06-14T18:18:57Z
                                                Web Development
2957
            6.5 hours
                        2017-03-30T22:17:09Z
                                               Business Finance
2958
              5 hours
                        2015-06-17T22:23:31Z
                                               Business Finance
                        2013-10-20T19:53:28Z
2959
             26 hours
                                               Web Development
                        2015-07-01T21:46:36Z
2960
              6 hours
                                                Web Development
2962
            5.5 hours
                        2017-01-27T17:11:28Z
                                               Business Finance
           12.5 hours 2016-11-06T19:00:38Z
3013
                                                Web Development
3154
              8 hours
                        2016-04-12T00:40:03Z
                                               Business Finance
3272
             11 hours 2016-09-26T15:08:29Z
                                               Web Development
3460
             20 hours
                        2014-03-04T07:12:21Z
                                               Web Development
3573
                        2012-04-25T00:01:43Z
                                               Web Development
              4 hours
3574
            4.5 hours 2015-08-09T22:16:41Z
                                               Web Development
len(udemy[udemy['course_title'].str.contains('Python')])
29
```

9. What are the courses that are published in the rear 2015?

```
True
     1170074 #10 Hand Coordination - Transfer Chord Ballad ...
1
True
  price num subscribers num reviews num lectures
level \
     35
                    3137
                                                              All
0
                                   18
                                                  68
Levels
     75
                    1593
                                    1
                                                  41
                                                      Intermediate
Level
  content_duration    published_timestamp
                                                       subject
         1.5 hours 2014-09-18T05:07:05Z Musical Instruments
            1 hour 2017-04-12T19:06:34Z
1
                                          Musical Instruments
udemy.dtypes
course id
                        int64
course_title
                       object
                         bool
is paid
price
                       object
num subscribers
                        int64
num reviews
                        int64
num lectures
                        int64
                       object
level
content duration
                       object
published timestamp
                       object
subject
                       object
dtype: object
udemy[udemy['published timestamp'].str.contains('2015')]
      course id
                                                       course title
is_paid
10
         591880 1 - Concepts of Statistics For Beginners Step ...
True
                       10 Numbers Every Business Owner Should Know
16
         302450
True
         384928 101 Blues riffs - learn how the harmonica supe...
19
True
23
         550842 16 Guitar Chords to Jam With - (Beginner - Int...
True
26
         486240
                     2 Easy Steps To Investment And Avoiding Traps
True
. . .
                                        Your First Course on Piano
3675
         551170
True
3676
         498488 Your First Successful Forex Trades - With Case...
True
```

```
3677
         328960 Your Own Site in 45 Min: The Complete Wordpres...
True
3678
         552700
                   Your Second Course on Piano: Two Handed Playing
True
3679
         631754
                 Zend Framework 2: Learn the PHP framework ZF2 ...
True
     price
            num subscribers num reviews
                                           num lectures
level
10
       200
                         273
                                        4
                                                              Beginner
                                                      15
Level
                                                       9
        20
                          13
                                                                   All
16
Levels
                                                          Intermediate
19
       200
                        1350
                                        65
                                                      55
Level
23
        20
                        1224
                                        19
                                                      20
                                                              Beginner
Level
                                                      20
26
        20
                         828
                                        1
                                                                   All
Levels
. . .
3675
                        2002
        70
                                        34
                                                      33
                                                              Beginner
Level
       200
                        1079
                                       34
                                                      16
                                                                   All
3676
Levels
3677
       120
                        1566
                                       29
                                                      36
                                                                   All
Levels
3678
        70
                        1018
                                        12
                                                      22
                                                              Beginner
Level
3679
        40
                         723
                                                      37
                                      130
                                                                   All
Levels
     content duration
                         published_timestamp
                                                           subject
10
              31 mins
                        2015-08-30T22:48:34Z
                                                  Business Finance
16
               1 hour
                        2015-03-08T19:11:24Z
                                                  Business Finance
19
            6.5 hours
                        2015-01-04T21:14:31Z
                                               Musical Instruments
               1 hour
                                               Musical Instruments
23
                        2015-07-10T19:53:56Z
26
               1 hour
                        2015-04-27T23:18:59Z
                                                  Business Finance
                        2015-07-16T17:07:49Z
                                               Musical Instruments
3675
              4 hours
3676
            2.5 hours 2015-05-26T20:48:48Z
                                                  Business Finance
3677
              4 hours
                        2015-04-20T22:15:17Z
                                                   Web Development
3678
              5 hours
                        2015-10-26T20:04:21Z
                                               Musical Instruments
3679
            6.5 hours 2015-11-11T18:55:45Z
                                                   Web Development
[1014 rows x 11 columns]
len(udemy[udemy['published timestamp'].str.contains('2015')])
1014
```

```
udemy['published timestamp']=pd.to datetime(udemy['published timestamp']
'])
udemy.dtypes
course id
                                     int64
course title
                                    object
is paid
                                      bool
price
                                    object
num subscribers
                                     int64
num reviews
                                     int64
num lectures
                                     int64
                                    object
level
content duration
                                    object
published timestamp
                       datetime64[ns, UTC]
subject
                                    object
dtype: object
#adding a new col
udemy['year']=udemy['published timestamp'].dt.year
udemy
      course id
                                                       course title
is paid
         288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
        1170074 #10 Hand Coordination - Transfer Chord Ballad ...
1
True
        1193886 #12 Hand Coordination: Let your Hands dance wi...
True
        1116700 #4 Piano Hand Coordination: Fun Piano Runs in ...
3
True
        1120410 #5
                     Piano Hand Coordination: Piano Runs in 2 ...
4
True
. . .
         328960 Your Own Site in 45 Min: The Complete Wordpres...
3677
True
                   Your Second Course on Piano: Two Handed Playing
3678
         552700
True
         631754 Zend Framework 2: Learn the PHP framework ZF2 ...
3679
True
        1225194 Zoho Books Gestion Financière d'Entreprise pas...
3680
False
3681
         964478
                               Zombie Apocalypse Photoshop Actions
True
     price num subscribers num reviews num lectures
level \
```

0 Levels	35		3137	18	68	All
1	75		1593	1	41	Intermediate
Level 2	75		482	1	47	Intermediate
Level 3	75		850	3	43	Intermediate
Level 4	75		940	3	32	Intermediate
Level						
	120		1566	29	36	All
3678	70		1018	12	22	Beginner
Level	40		723	130	37	All
Levels 3680 F	ree		229	0	33	All
Levels						
3681 Levels	50		12	1	15	All
year	ntent_dur	ration	publi	ished_times	stamp	subject
0 2014	1.5	hours	2014-09-18	05:07:05+0	00:00 Musica	l Instruments
1	1	l hour	2017-04-12	19:06:34+0	00:00 Musica	l Instruments
2017	1.5	hours	2017-04-26	18:34:57+0	00:00 Musica	l Instruments
2017 3	1	L hour	2017-02-21	23:48:18+0	00:00 Musica	l Instruments
2017 4	37	7 mins	2017-02-21	23:44:49+0	00:00 Musica ⁻	l Instruments
2017						
3677 2015	4	hours	2015-04-20	22:15:17+0	00:00 Wel	Development
3678	5	hours	2015-10-26	20:04:21+0	00:00 Musica	l Instruments
2015 3679	6.5	hours	2015-11-11	18:55:45+0	00:00 Wel	Development
2015 3680	2	hours	2017-05-26	16:45:55+0	00:00 Bus:	iness Finance
2017 3681	1.5	hours	2016-09-26	22:19:48+0	00:00 G	raphic Design
2016						-
[3682 r	ows x 12	columr	ns l			

udemy[u	udemy['yea	ar']== <mark>2015</mark>]			
	course_id			cou	rse_title
is_paid	591880	1 - Concepts	of Statistics For	r Beginners	Step
True 16 True	302450	10 Numb	ers Every Busines	ss Owner Sh	ould Know
19 True	384928	101 Blues rif	fs - learn how th	ne harmonic	a supe
23 True	550842	16 Guitar Cho	rds to Jam With -	- (Beginner	- Int
26 True	486240	2 Easy Sto	eps To Investment	t And Avoid	ing Traps
3675 True	551170			irst Course	
3676 True	498488		ccessful Forex Tr		
3677 True	328960		in 45 Min: The (•	•
3678 True	552700		Course on Piano:		, ,
3679 True	631754	Zend Framewor	k 2: Learn the Ph	HP Tramewor	K ZFZ
pı level	rice num_ \	_subscribers n	um_reviews num_l	lectures	
10 Level	200	273	4	15	Beginner
16 Levels	20	13	1	9	All
19 Level	200	1350	65	55 I	ntermediate
23 Level	20	1224	19	20	Beginner
26 Levels	20	828	1	20	All
3675 Level	70	2002	34	33	Beginner
3676 Levels	200	1079	34	16	All
3677 Levels	120	1566	29	36	All
3678 Level	70	1018	12	22	Beginner
3679	40	723	130	37	All

Level	ls								
	conten	t_dur	ration	publ:	ished_tim	estamp		!	subject
year 10		31	l mins	2015-08-30	22:48:34	+00:00	Busin	ess	Finance
2015		-		2015 02 00	10 - 11 - 24	.00.00	D i		
16 2015			L nour	2015-03-08	19:11:24	+00:00	Busin	iess i	Finance
19		6.5	hours	2015-01-04	21:14:31	+00:00	Musical	Inst	ruments
2015 23]	L hour	2015-07-10	19:53:56	+00:00	Musical	Inst	ruments
2015		-	مريما ا	2015 04 27	22.10.50	.00.00	Dunda		
26 2015		_	L nour	2015-04-27	23:18:59	+00:00	Busin	iess	Finance
3675		4	hours	2015-07-16	17:07:49	+00:00	Musical	Inst	ruments
2015 3676		2.5	hours	2015-05-26	20.49.49	.00.00	Rucin	000	Finance
2015		2.5	Hour S	2013-03-20	20:40:40	+00:00	DUSTI	1622	Tilalice
3677 2015		4	hours	2015-04-20	22:15:17	+00:00	Web	Deve	lopment
3678		5	hours	2015-10-26	20:04:21	+00:00	Musical	Inst	ruments
2015 3679		6 5	hours	2015-11-11	18 • 55 • 45	+00 · 00	Weh	Deve	lopment
2015		0.5	110013	2013 11 11	10.33.43	.00.00	WCD.	DCVC	copilicité
[1014	4 rows	x 12	column	ıs]					

10. What are the max number of subcriber in for each level of course?

```
udemy.head(2)
   course id
                                                   course_title
is_paid \
     288942 #1 Piano Hand Coordination: Play 10th Ballad i...
True
    1170074 #10 Hand Coordination - Transfer Chord Ballad ...
True
  price num subscribers num reviews num lectures
level \
    35
                    3137
                                   18
                                                 68
                                                            All
Levels
                                                41 Intermediate
                    1593
    75
Level
```

```
content duration published timestamp
                                                       subject
year
0
        1.5 hours 2014-09-18 05:07:05+00:00
                                            Musical Instruments
2014
           1 hour 2017-04-12 19:06:34+00:00
                                            Musical Instruments
1
2017
udemy.groupby('level')['num subscribers'].max()
level
All Levels
                     268923
Beginner Level
                     161029
Expert Level
                       5172
                      29167
Intermediate Level
Name: num_subscribers, dtype: int64
udemy.groupby('level').max()
                   course id \
level
All Levels
                     1277924
Beginner Level
                     1282064
Expert Level
                     1275790
Intermediate Level
                     1276182
                                                      course title
level
All Levels
                                      6時間でインターバンク市場を攻略!最
短距離でトレード基礎力
Beginner Level
                          7日でマスター ビギナー向け Adobe Illustrator ど
きどきセミナー
Expert Level
                   [Value Investing] Where White People Keep Thei...
Intermediate Level
                                           株式投資で本当のテクニカル分析
ができるようになる
                   is paid price num subscribers num reviews
num lectures \
level
All Levels
                      True Free
                                          268923
                                                       27445
544
Beginner Level
                      True Free
                                          161029
                                                        5924
779
                      True
                             95
                                                         249
Expert Level
                                            5172
157
Intermediate Level
                                                        3326
                      True Free
                                           29167
320
```

	content duration	published timestamp	,
level			
All Levels Beginner Level		2017-07-06 21:16:13+00:00 2017-07-06 21:46:30+00:00	
Expert Level		2017-07-04 18:08:01+00:00	
Intermediate Level	9.5 hours	2017-07-05 04:41:54+00:00	
	subject	year	
level			
All Levels	Web Development	2017	
Beginner Level	Web Development		
Expert Level	Web Development		
Intermediate Level	Web Development	2017	