import pandas as pd data=pd.read\_csv(r"C:\Users\hp\Downloads\7. Udemy Courses.csv") In [4]: data course title is paid price num subscribers num reviews num lectures level content duration published timestamp course\_id subject Out[4]: 288942 #1 Piano Hand Coordination: Play 10th Ballad i... 3137 18 All Levels 1.5 hours 2014-09-18T05:07:05Z Musical Instruments **1** 1170074 #10 Hand Coordination - Transfer Chord Ballad ... 75 1593 41 Intermediate Level 1 hour 2017-04-12T19:06:34Z Musical Instruments True 75 482 1.5 hours 2017-04-26T18:34:57Z Musical Instruments 2 1193886 #12 Hand Coordination: Let your Hands dance wi... 1 47 Intermediate Level 3 1116700 #4 Piano Hand Coordination: Fun Piano Runs in ... 75 850 43 Intermediate Level 1 hour 2017-02-21T23:48:18Z Musical Instruments True 4 1120410 #5 Piano Hand Coordination: Piano Runs in 2 ... 75 940 3 32 Intermediate Level 37 mins 2017-02-21T23:44:49Z Musical Instruments 29 1566 36 All Levels 4 hours 2015-04-20T22:15:17Z Web Development 3677 328960 Your Own Site in 45 Min: The Complete Wordpres... 120 12 3678 552700 Your Second Course on Piano: Two Handed Playing 70 1018 22 Beginner Level 5 hours 2015-10-26T20:04:21Z Musical Instruments True 130 37 6.5 hours 2015-11-11T18:55:45Z 3679 631754 Zend Framework 2: Learn the PHP framework ZF2 ... 40 723 All Levels Web Development 33 3680 1225194 Zoho Books Gestion Financière d'Entreprise pas... False Free 229 0 All Levels 2 hours 2017-05-26T16:45:55Z **Business Finance** 12 15 1.5 hours 2016-09-26T22:19:48Z 3681 964478 Zombie Apocalypse Photoshop Actions True 50 1 All Levels Graphic Design 3682 rows × 11 columns In [5]: #data.sub.unique name data.subject.unique() array(['Musical Instruments', 'Business Finance', 'Graphic Design', 'Web Development'], dtype=object) #maximum cousre In [7]: data.subject.value\_counts() Out[7]: 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 data.head(1) Out[8]: course id course title is paid price num\_subscribers num\_reviews num\_lectures level content duration published timestamp subject 288942 #1 Piano Hand Coordination: Play 10th Ballad i... 3137 18 68 All Levels 1.5 hours 2014-09-18T05:07:05Z Musical Instruments data[data.is\_paid==False] In [10]: level content duration published timestamp course\_id course\_title is\_paid price num\_subscribers num\_reviews num\_lectures subject Out[10]: 286070 263 41 5 lecciones que todo guitarrista debe tomar 4452 14 Beginner Level 1 hour 2014-08-23T05:08:14Z Musical Instruments 49 696630 7 Ways A Beginner Guitarist Can Sound Better, ... 4529 193 7 Beginner Level 36 mins 2015-12-21T18:50:50Z Musical Instruments False Free 20 Beginner Level 57 955914 A beginner's guide to fingerpicking and strumm... 3481 29 2 hours 2016-09-13T21:51:59Z Musical Instruments A how to guide in HTML 205 67 270976 False Free 7318 8 Beginner Level 35 mins 2014-08-10T20:19:10Z Web Development 1 hour 2017-05-30T14:30:12Z Business Finar ¡Triunfar en La Bolsa de Valores No Requiere d.. WordPress in under an hour - Create/manage you... 552598 6474 86 15 All Levels 1 hour 2015-07-15T00:21:56Z Web Development 3620 False Free 1068590 Wordpress Website Mastery 2017 False Free 2.5 hours 2017-01-18T17:01:40Z 3638 5181 64 22 Beginner Level Web Development Write quicker HTML5 and CSS 3; productivity ha... 1.5 hours 2016-03-03T17:45:31Z 286 15 3652 752706 Free 13016 All Levels Web Development 18 Beginner Level 1 hour 2017-06-29T00:29:36Z Musical Instruments 3674 1257976 Your First 10 Guitar Lessons - Learn how to pl... False Free 924 4 1225194 Zoho Books Gestion Financière d'Entreprise pas... 229 0 33 All Levels 2 hours 2017-05-26T16:45:55Z **Business Finance** 3680 False 310 rows × 11 columns In [11]: #paid courses data[data.is\_paid==True] Out[11]: course\_id course\_title is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp subject 288942 #1 Piano Hand Coordination: Play 10th Ballad i... True 35 3137 18 68 All Levels 1.5 hours 2014-09-18T05:07:05Z Musical Instruments 1170074 75 1593 #10 Hand Coordination - Transfer Chord Ballad ... 41 Intermediate Level 1 hour 2017-04-12T19:06:34Z Musical Instruments True 1 1 2 1193886 #12 Hand Coordination: Let your Hands dance wi... 75 482 1 47 Intermediate Level 1.5 hours 2017-04-26T18:34:57Z Musical Instruments 75 3 3 1116700 #4 Piano Hand Coordination: Fun Piano Runs in ... True 850 43 Intermediate Level 1 hour 2017-02-21T23:48:18Z Musical Instruments 4 1120410 #5 Piano Hand Coordination: Piano Runs in 2 ... True 75 940 3 32 Intermediate Level 37 mins 2017-02-21T23:44:49Z Musical Instruments 3676 498488 Your First Successful Forex Trades - With Case... 200 1079 34 16 All Levels 2.5 hours 2015-05-26T20:48:48Z **Business Finance** True 29 120 1566 36 3677 328960 Your Own Site in 45 Min: The Complete Wordpres.. True All Levels 4 hours 2015-04-20T22:15:17Z Web Development 3678 552700 Your Second Course on Piano: Two Handed Playing True 70 1018 12 22 Beginner Level 5 hours 2015-10-26T20:04:21Z Musical Instruments Zend Framework 2: Learn the PHP framework ZF2 ... 723 130 37 6.5 hours 2015-11-11T18:55:45Z 631754 40 All Levels Web Development 3679 True 964478 Zombie Apocalypse Photoshop Actions 50 12 1 15 All Levels 1.5 hours 2016-09-26T22:19:48Z Graphic Design 3681 True 3372 rows × 11 columns #top selling courses In [12]: data.sort\_values('num\_subscribers', ascending =False) Out[12]: course\_id course\_title is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp subject Web Development 2230 Learn HTML5 Programming From Scratch 41295 False Free 268923 8629 45 All Levels 10.5 hours 2013-02-14T07:03:41Z 776 59014 Coding for Entrepreneurs Basic False Free 161029 279 27 Beginner Level 3.5 hours 2013-06-09T15:51:55Z Web Development 625204 121584 27445 342 43 hours 2015-11-02T21:13:27Z 3385 The Web Developer Bootcamp 200 All Levels Web Development True 3 hours 2014-04-08T16:21:30Z Build Your First Website in 1 Week with HTML5 ... 120291 5924 640 173548 False Free 30 Beginner Level Web Development 114512 30.5 hours 2016-03-08T22:28:36Z 764164 The Complete Web Developer Course 2.0 22412 304 3316 200 All Levels Web Development True 2290 1223240 Learn Pirates of the Caribbean by Ear on the P... 0 0 All Levels 32 mins 2017-05-22T17:14:43Z Musical Instruments True 2 hours 2017-06-29T23:20:10Z 1267 1258666 Financial Statement Auditing Cycles 1215926 0 2070 Kickstarter success in 5 easy steps 20 0 All Levels 31 mins 2017-05-16T14:55:28Z **Business Finance** True Introduction to Project Management for Finance.. 1247992 2 hours 2017-07-03T21:40:32Z 1931 True Beginner Level **Business Finance** Stop Creditors from Harassing you and Avoid Ba... 0 0 37 mins 2017-02-02T16:22:37Z 3165 1087466 True 20 Beginner Level Business Finance 3682 rows × 11 columns #least selling courses In [15]: data.sort\_values('num\_subscribers', ascending =True) level content\_duration published\_timestamp subject Out[15]: course\_id course\_title is\_paid price num\_subscribers num\_reviews num\_lectures 649 1233314 **Building a Balanced Scorecard** True 50 11 Intermediate Level 2 hours 2017-07-03T21:38:22Z **Business Finance** 1232282 The Cash Flow Statement - An Introduction 50 1.5 hours 2017-06-28T16:05:51Z Business Finance 3259 True 10 Beginner Level The Complete Adobe Spark Course 2 hours 2017-07-03T17:39:57Z 3261 1275872 150 0 0 All Levels **Graphic Design** Create Beautiful Image Maps for Your Website 8 Intermediate Level 726314 37 mins 2016-01-18T17:56:36Z Graphic Design 910 20 True 1 hour 2016-01-06T02:38:23Z 3328 715476 The Cuckoo Strategy to get European Funding True 160 0 0 All Levels Business Finance 22412 3316 764164 The Complete Web Developer Course 2.0 200 114512 304 All Levels 30.5 hours 2016-03-08T22:28:36Z Web Development 120291 5924 173548 Build Your First Website in 1 Week with HTML5 ... 30 3 hours 2014-04-08T16:21:30Z Web Development 640 False Free Beginner Level 3385 625204 The Web Developer Bootcamp 200 121584 27445 342 All Levels 43 hours 2015-11-02T21:13:27Z Web Development True 27 776 59014 Coding for Entrepreneurs Basic False Free 161029 279 Beginner Level 3.5 hours 2013-06-09T15:51:55Z Web Development 2230 41295 Learn HTML5 Programming From Scratch 268923 8629 45 All Levels 10.5 hours 2013-02-14T07:03:41Z Web Development 3682 rows × 11 columns In [22]: #courses of graphic design price below is 100 data[(data.subject=='Graphic Design')& (data.price<'100')]</pre> data.head(2) course\_title is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp subject Out[22]: course\_id 288942 #1 Piano Hand Coordination: Play 10th Ballad i... 3137 All Levels 1.5 hours 2014-09-18T05:07:05Z Musical Instruments 18 1170074 #10 Hand Coordination - Transfer Chord Ballad ... 1593 True 75 41 Intermediate Level 1 hour 2017-04-12T19:06:34Z Musical Instruments data[(data.subject=='Graphic Design')& (data.price=='100')] In [23]: data.head() course\_title is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp Out[23]: course\_id subject #1 Piano Hand Coordination: Play 10th Ballad i... 18 68 All Levels 1.5 hours 2014-09-18T05:07:05Z Musical Instruments 288942 35 3137 #10 Hand Coordination - Transfer Chord Ballad . 1593 41 Intermediate Level 1 hour 2017-04-12T19:06:34Z Musical Instruments 1193886 #12 Hand Coordination: Let your Hands dance wi... True 482 1 47 Intermediate Level 1.5 hours 2017-04-26T18:34:57Z Musical Instruments 1 hour 2017-02-21T23:48:18Z Musical Instruments #5 Piano Hand Coordination: Piano Runs in 2 ... 37 mins 2017-02-21T23:44:49Z Musical Instruments **4** 1120410 True 75 32 Intermediate Level # courses related to python In [28]: data[data.course\_title.str.contains('Python')] is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp Out[28]: course\_id course\_title subject 599504 Advanced Scalable Python Web Development Using.. 71 Intermediate Level 14 hours 2016-08-11T22:09:24Z Web Development 216 True 120 1299 56 799 251 777 47963 195 23412 All Levels 45 hours 2013-04-08T00:46:14Z Web Development Coding for Entrepreneurs: Learn Python, Django... True 631128 Complete Python Web Course: Build 8 Python Web... 941 173 All Levels 16 hours 2015-11-08T20:57:35Z Web Development 814 True 110 7489 154 All Levels 842 186096 Core: A Web App Reference Guide for Django, Py.. True 195 2497 98 26 hours 2014-05-29T00:58:43Z Web Development 1400 394832 Fun and creative web engineering with Python a... False Free 10917 319 25 All Levels 2 hours 2015-06-09T19:51:50Z Web Development 1038538 26 28 Introduction to QGIS Python Programming 85 197 3.5 hours 2016-12-22T00:11:22Z Web Development 1932 True Beginner Level Investment Portfolio Analysis with Python 50 13 37 All Levels 7 hours 2016-07-13T21:40:32Z Business Finance 1969 902888 True 209 198 23 Learn Python and Django: Payment Processing 70 17714 All Levels 3.5 hours 2015-02-09T15:37:56Z Web Development 2294 391546 True 1063722 Learn Python Django - A Hands-On Course 50 1339 21 2 hours 2017-01-18T21:53:34Z Web Development 2295 True 18 Beginner Level 546848 50 1132 29 All Levels 2 hours 2015-07-08T00:15:12Z 2341 Learn to code in Python and learn Adobe Photos.. True Graphic Design Professional Python Web Development Using Flask 120 489 102 14.5 hours 2015-03-04T00:10:36Z Web Development 2906 368340 True 3420 Beginner Level 1035940 Professional RESTful API Design using Python F... 120 578 25 36 Intermediate Level 4.5 hours 2017-01-11T21:15:25Z Web Development 2908 True Projects in Diango and Python 60 53 6.5 hours 2014-10-21T07:58:07Z Web Development 2929 270808 True 1764 28 All Levels 2952 1170894 Python Algo Stock Trading: Automate Your Trading! True 95 1165 21 41 Beginner Level 2.5 hours 2017-05-28T23:41:03Z Business Finance 2953 1070886 Python Algo Trading: FX Trading with Oanda True 200 453 42 33 Intermediate Level 3 hours 2017-03-14T00:39:45Z Business Finance 42 7 hours 2017-04-28T16:41:44Z Business Finance 2954 1196544 Python Algo Trading: Sentiment Trading with News True 200 294 19 All Levels 1883 191 2955 822444 Python and Django Full Stack Web Developer Boo... True 200 11832 All Levels 31.5 hours 2017-02-24T18:40:55Z Web Development 150 125 84 2956 477702 Python for Beginners: Python Programming Langu... True 6153 Beginner Level 5 hours 2015-06-14T18:18:57Z Web Development 278 103 2957 1035472 Python for Finance: Investment Fundamentals & ... True 195 3811 All Levels 6.5 hours 2017-03-30T22:17:09Z Business Finance 36 All Levels 2958 529828 Python for Trading & Investing True 95 638 25 5 hours 2015-06-17T22:23:31Z Business Finance Python Programming: Create an Digital Marketpl.. 2959 70640 True 195 4198 145 161 All Levels 26 hours 2013-10-20T19:53:28Z Web Development 523312 46 60 Beginner Level 6 hours 2015-07-01T21:46:36Z Web Development 2960 Python Web Programming True 100 1020 50 49 2962 1088656 Quantitative Trading Analysis with Python True 256 17 All Levels 5.5 hours 2017-01-27T17:11:28Z Business Finance 3013 970600 REST APIs with Flask and Python True 110 5151 737 115 Intermediate Level 12.5 hours 2016-11-06T19:00:38Z Web Development 8 hours 2016-04-12T00:40:03Z Business Finance 815482 Stock Technical Analysis with Python True 50 409 35 46 All Levels 3154 The Complete Ethical Hacking Course 2.0: Pytho... 268 66 All Levels 3272 938560 True 195 7827 11 hours 2016-09-26T15:08:29Z Web Development Try Django 1.9 | Build a Blog and Learn Python... 20 hours 2014-03-04T07:12:21Z Web Development 3460 76052 True 50 7407 172 147 All Levels 217 53 All Levels 3573 16646 Web Programming with Python True 50 35267 4 hours 2012-04-25T00:01:43Z Web Development Web Scraping with Python, Ruby & import. io 4.5 hours 2015-08-09T22:16:41Z Web Development 3574 574082 True 75 973 50 46 All Levels In [29]: # courses that published in 2015 data.dtypes Out[29]: course\_id int64 course\_title object bool is\_paid object price num\_subscribers int64 num\_reviews int64 num\_lectures int64 level object content\_duration object published\_timestamp object subject object dtype: object data['published\_timestamp']= pd.to\_datetime(data.published\_timestamp) In [31]: In [32]: data.dtypes Out[32]: course\_id int64 course\_title object is\_paid bool object price num\_subscribers int64 num\_reviews int64 num\_lectures int64 level object content\_duration object datetime64[ns, UTC] published\_timestamp subject object dtype: object data['Year']=data['published\_timestamp'].dt.year In [33]: In [34]: data Out[34]: course\_title is\_paid price num\_subscribers num\_reviews num\_lectures subject Year course\_id level content\_duration published\_timestamp 288942 #1 Piano Hand Coordination: Play 10th Ballad i... 18 0 True 35 3137 All Levels 1.5 hours 2014-09-18 05:07:05+00:00 Musical Instruments 2014 1170074 #10 Hand Coordination - Transfer Chord Ballad ... 75 1593 41 Intermediate Level True 1 hour 2017-04-12 19:06:34+00:00 Musical Instruments 2017 1.5 hours 2017-04-26 18:34:57+00:00 Musical Instruments 2017 2 1193886 #12 Hand Coordination: Let your Hands dance wi... True 75 482 1 47 Intermediate Level 1116700 75 850 3 1 hour 2017-02-21 23:48:18+00:00 Musical Instruments 2017 3 #4 Piano Hand Coordination: Fun Piano Runs in ... 43 Intermediate Level 1120410 #5 Piano Hand Coordination: Piano Runs in 2 ... 940 3 37 mins 2017-02-21 23:44:49+00:00 Musical Instruments 2017 4 True 75 32 Intermediate Level 328960 1566 29 36 All Levels 4 hours 2015-04-20 22:15:17+00:00 3677 Your Own Site in 45 Min: The Complete Wordpres... True 120 Web Development 2015 12 3678 552700 Your Second Course on Piano: Two Handed Playing True 70 1018 22 Beginner Level 5 hours 2015-10-26 20:04:21+00:00 Musical Instruments 2015 3679 631754 Zend Framework 2: Learn the PHP framework ZF2 ... True 40 723 130 37 All Levels 6.5 hours 2015-11-11 18:55:45+00:00 Web Development 2015 1225194 229 0 33 All Levels 3680 Zoho Books Gestion Financière d'Entreprise pas... False Free 2 hours 2017-05-26 16:45:55+00:00 Business Finance 2017 Zombie Apocalypse Photoshop Actions 15 3681 964478 True 50 12 1 All Levels 1.5 hours 2016-09-26 22:19:48+00:00 Graphic Design 2016 3682 rows × 12 columns data[data.Year==2015] In [35]: Out[35]: course\_id course\_title is\_paid price num\_subscribers num\_reviews num\_lectures level content\_duration published\_timestamp subject Year 1 - Concepts of Statistics For Beginners Step ... 10 591880 273 Beginner Level 31 mins 2015-08-30 22:48:34+00:00 Business Finance 2015 True 200 15 16 302450 10 Numbers Every Business Owner Should Know True 13 All Levels 1 hour 2015-03-08 19:11:24+00:00 Business Finance 2015 384928 101 Blues riffs - learn how the harmonica supe... 200 1350 65 55 Intermediate Level 6.5 hours 2015-01-04 21:14:31+00:00 Musical Instruments 2015 19 True 19 23 550842 16 Guitar Chords to Jam With - (Beginner - Int... 1224 20 Beginner Level 1 hour 2015-07-10 19:53:56+00:00 Musical Instruments 2015 True 26 486240 828 20 2 Easy Steps To Investment And Avoiding Traps True 20 1 1 hour 2015-04-27 23:18:59+00:00 Business Finance 2015 All Levels 551170 Beginner Level 3675 Your First Course on Piano True 70 2002 34 33 4 hours 2015-07-16 17:07:49+00:00 Musical Instruments 2015 3676 498488 Your First Successful Forex Trades - With Case... 1079 34 16 All Levels 2.5 hours 2015-05-26 20:48:48+00:00 True Your Own Site in 45 Min: The Complete Wordpres... 1566 29 36 328960 120 All Levels 4 hours 2015-04-20 22:15:17+00:00 Web Development 2015 3677 True Your Second Course on Piano: Two Handed Playing 70 1018 12 22 Beginner Level 5 hours 2015-10-26 20:04:21+00:00 Musical Instruments 2015 3678 552700 True 631754 Zend Framework 2: Learn the PHP framework ZF2 ... True 130 37 40 723 6.5 hours 2015-11-11 18:55:45+00:00 Web Development 2015 3679 All Levels 1014 rows × 12 columns #max.num of subscribers for each level of courses In [39]: data.level.unique() Out[39]: array(['All Levels', 'Intermediate Level', 'Beginner Level', 'Expert Level'], dtype=object) data.groupby('level')['num\_subscribers'].max() In [41]: level Out[41]: 268923 All Levels Beginner Level 161029 5172 Expert Level Intermediate Level 29167 Name: num\_subscribers, dtype: int64