<pre># Create a new column Year Jo df_companies['Year Joined'] = df_companies.head()  C:\Users\HP\AppData\Local\Temp y a format.</pre>	<pre>pd.to_datetime(df_companies['Date \ipykernel_2424\3571876262.py:2:  pd.to_datetime(df_companies['Date dd</pre>	te Joined']).dt.year  UserWarning: Could not infer form  ate Joined']).dt.year	at, so each element will  Year Founded Funding 2012 \$8B		falling back to `dateutil`. T  Select Investors Year Joined  nvestments, S 2017	o ensure parsing is c	consistent and as-expected, ple
2 SHEIN \$100B 7/3/1  3 Stripe \$95B 1/23/1  4 Klarna \$46B 12/12/2  # Define the `str_to_num()` in the def str_to_num(x):     x = x.strip('\$B')     x = int(x)	1 Fintech	Shenzhen China Asia n Francisco United States North America Stockholm Sweden Europe	a 2010 \$2B	iger Global Management, Sequoia  Khosla Ventures, Lowercase  Institutional Venture Partners, S	Capital, capitalG 2014		
<pre># and assign the result back df_companies['valuation_num'] df_companies[['Valuation', 'v</pre>		n_num` ly(str_to_num)					
df_companies.isna().sum()  Company 0 Valuation 0 Date Joined 0 Industry 0 City 16 Country/Region 0 Continent 0 Year Founded 0 Funding 0 Select Investors 1 Year Joined 0 valuation_num 0 dtype: int64  # 1. Apply the `isna()` methomask = df_companies.isna() mask.tail()  Company Valuation Date Journal Date	values in each column in this data  od to the `df_companies` datafram  ined Industry City Country/Region (  alse False False False  to `mask` and assign the result	continent Year Founded Funding Select In False	nvestors Year Joined valuate False	ion_num False False False False False False			
df_missing_rows = df_companied df_missing_rows  Company Now 12 FTX  170 HyalRoute 242 Moglix 251 Trax 325 Amber Group 382 Ninja Van 541 Advance Intelligence Group 629 LinkSure Network 811 Carousell 848 Matrixport 880 bolttech 889 Carro 893 Cider 980 NIUM 986 ONE 994 PatSnap 1061 WeLab	### ### ### ### ### ### ### ### ### ##	communications NaN Singapore ect-to-consumer NaN Singapore icial intelligence NaN Singapore Fintech NaN Hong Kong stics, & delivery NaN Singapore icial intelligence NaN Singapore communications Shanghai China ect-to-consumer NaN Singapore Fintech NaN Singapore Fintech NaN Singapore ect-to-consumer NaN Singapore ect-to-consumer NaN Singapore ect-to-consumer NaN Singapore ect-to-consumer NaN Singapore ext-to-consumer NaN Singapore ext-to-consumer NaN Singapore ware & services NaN Singapore ware & services NaN Singapore Fintech NaN Singapore	North America       20         Asia       20	\$263M  \$263M  \$471M Jungle Y  \$15 \$471M Jungle Y  \$16 \$18 Hopu Investment M  \$17 \$328M Tiger Global Manage  \$18 \$1975M B Capital Group  \$19 \$100M Vision Plus O  \$19 \$100M Dragonfly Capital  \$210M Mundi Ventures  \$210M Mundi Ventures  \$210M Andreessen H  \$285M Vertex Ventures  \$285M Vertex Ventures  \$352M Sequoia Capital	Select Investors Year Capital, Thoma Bravo, Softbank Kuang-Chi Yentures, Accel, Venture Highway anagement, Boyu Capital, DC T Jement, Tiger Brokers, DCM Ve Monk's Hill Ventures, Dynamic Capital, GSR Ventures, ZhenFund NaN en Ventures, Golden Gate Vent J., Qiming Venture Partners, DS S., Doqling Capital Partners, Acti Orowitz, DST Global, IDG Capital SE Asia, Global Founders Capit Sim Investments, Qatar Investm China, Shunwei Capital Partner China, ING, Alibaba Entreprene	r Joined valuation_num  2021 32  2020 4  2021 3  2019 3  2021 2  2021 2  2021 2  2015 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1  2021 1	
count_dropna_rows = df_compare count_dropna_rows  12684  # Drop the columns containing count_dropna_columns = df_core count_dropna_columns  10740  # Print the percentage of value of print(f'Percentage removed, respectively)  # Print the percentage of value col_percent = ((count_total - print(f'Percentage removed, rem	dies.dropna().size  missing values, determine number  mpanies.dropna(axis=1).size  dues removed by dropping rows.  count_dropna_rows) / count_total  cows: {row_percent:.5f}')  dues removed by dropping columns.  count_dropna_columns) / count_t  columns: {col_percent:.3f}')  287 6.667  mg the 'fillna()' method, back-fill  companies.fillna(method='backfill')	r of remaining values  1) * 100  otal) * 100					
<pre>df_companies_backfill = df_c</pre>	[_missing_rows.index, :]  [align="left" companies.fillna"]  [align="left"	Fintech Jacksonville Baha communications El Segundo Singa ect-to-consumer San Francisco Singa icial intelligence Amsterdam Singa Fintech San Francisco Hong F stics, & delivery San Francisco Singa icial intelligence Helsinki Singa communications Shanghai	egion Continent Year Framas North America pore Asia pore Asia cong Asia pore Asia pore Asia cong Asia pore Asia pore Asia pore Asia pore Asia pore Asia pore Asia	ounded         Funding           2018         \$2B         Se           2015         \$263M           2015         \$471M         Jul           2010         \$1B         Hopu Investment           2015         \$328M         Tiger Global M           2014         \$975M         B Capital G           2016         \$536M         Vision F           2013         \$52M         Sequoia Capital G           2012         \$288M         500 Global,		Year Joined valuation_nu 2021	
<pre>)   (     (df_companies['Industry'] )</pre>	\$1B 3/16/21 Internet soft \$1B 11/8/17  Sing conditional logic	Fintech Bengaluru Singa ware & services New York Singa ware & services London Singa Fintech Beijing Hong F  City'].isin(cities))  df_companies['City']=='London')	pore Asia  Kong Asia  pore Asia  pore Asia  pore Asia  pore Asia	2015       \$595M       SingTel Innovation         2020       \$140M       Andrees         2014       \$285M       Vertex Vent         2011       \$515M       Temasek, Guggg         2007       \$352M       Sequoia Ca	atures, Doqling Capital Partners, Acti  8, Alpha JWC Ventures, Golden Gat  en Horowitz, DST Global, IDG Capital  ares SE Asia, Global Founders Capit  genheim Investments, Qatar Investm  pital China, Shunwei Capital Partner  pital China, ING, Alibaba Entreprene	2021 2021 2021 2021 2021 2021 2017	1 1 1 1 1 1 1 1 1 1
36 Bitmain \$  43 Global Switch \$  147 Chipone  845 Density  873 BenevolentAI  923 Geek+  1040 TERMINUS Technology  1046 Tractable  # Group the data by Country/P	Action         Date Joined         Industry           12B         7/6/18         Hardware           11B         12/22/16         Hardware           \$5B         12/16/21         Hardware           \$1B         11/10/21         Hardware           \$1B         6/2/15         Artificial intelligence           \$1B         11/21/18         Hardware           \$1B         10/25/18         Hardware           \$1B         6/16/21         Artificial intelligence	Beijing China A  London United Kingdom Euro  Beijing China A  San Francisco United States North Ameri  London United Kingdom Euro  Beijing China A	ppe 1998 \$5B Asia 2008 \$1B Arica 2014 \$217M Appe 2013 \$292M Asia 2015 \$439M Asia 2015 \$623M Appe 2014 \$120M	Coatue Management, Sequoia C Aviation Industry Corporation China Grand Prosperity Invest Founders Fund, Upfront Ve Woodford Invest Volcanics Ventures, Vertex Ve China Everbright Limited, III Insight Partners, Ignition P	of China, Essenc 2016 ment, Silk Road H 2021 ntures, 01 Advisors 2021 tment Management 2015 ntures China, War 2018 G Capital, iFLYTEK 2018	12 11 5 1 1 1 1 1 1	
# Print the top 15 values of national_valuations.head(15)  Country/Region valuation_num  United States 1933  China 696  India 196  United Kingdom 195  Germany 72  Sweden 63  Australia 56  France 55  Canada 49  South Korea 41  Brazil 37  Bahamas 32  Indonesia 28							
14 Singapore 21 # Remove outlying countries	national_valuations.iloc[4:, :]						
mask = ~national_valuations[National_valuations_no_big4 = national_valuations_no_big4.html  Country/Region valuation_num  Germany 72  Sweden 63  Australia 56  France 55  Canada 49	e the top 20 non-big-4 countries  uations_no_big4.head(20),	tates', 'China', 'India', 'United	Kingdom'])				
x='valuation_num' plt.title('Top 20 non-big-4 or plt.show();  Top 20 non- Germany Sweden Australia France Canada South Korea Israel Brazil Bahamas Indonesia Singapore Netherlands Hong Kong Turkey Mexico Estonia Finland Ireland Switzerland							
color='Country	o_big4  untry/Region', on_num', country names',	n-big-four)')					
	ons by country (non-big-four)	n-big-four) ')			Country/Region  Germany Sweden Australia France Canada South Korea Israel Brazil Bahamas Indonesia Singapore Netherlands Hong Kong Turkey Mexico Estonia Finland		
<pre># Addressing missing values : # Address missing values by e # When considering how to add # Addressing the missing valu # How would you present your # For the industry specific of # For the top 20 countries by # For the top 20 countries so</pre>	either removing them or filling the dress missing values, keep in minutes enabled you to answer your infindings from this lab to others companies in certain locations, you could us ported by sum of company valuations.	d the business, the data, and the vestor's questions.  Tou could provide a short list of compare the plot you created in this labbles in each country, you would excluse.	questions to be answere company names and locat. o or share a list.	ions. a, India, and United Kingd	om.		No.
# For the top 20 countries so	orted by sum of company valuation		de United States, China			quest a further break	down of this data.