# INVESTMENT ASSIGNMENT

SUBMISSION

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<Abstract>

Analysis of the data before investing into any sector is a crucial step for any company. This helps in stepping into a right direction.

Here in our analysis, we helped Spark funds which is an asset management company to get insights of the data to choose and invest in

the right sector, country and investment type. The company has mentioned two minor constraints for investments. First and foremost

is that it wants to invest between 5 to 15 million USD per round of investment and the second one is that it wants to invest only

in English-speaking countries because of the ease of communication with the companies it would invest in. The project involves in

refining and analysing the data to invest where most other investors are investing after considering the two factors mentioned before.

<Problem solving methodology>

<Analysis>
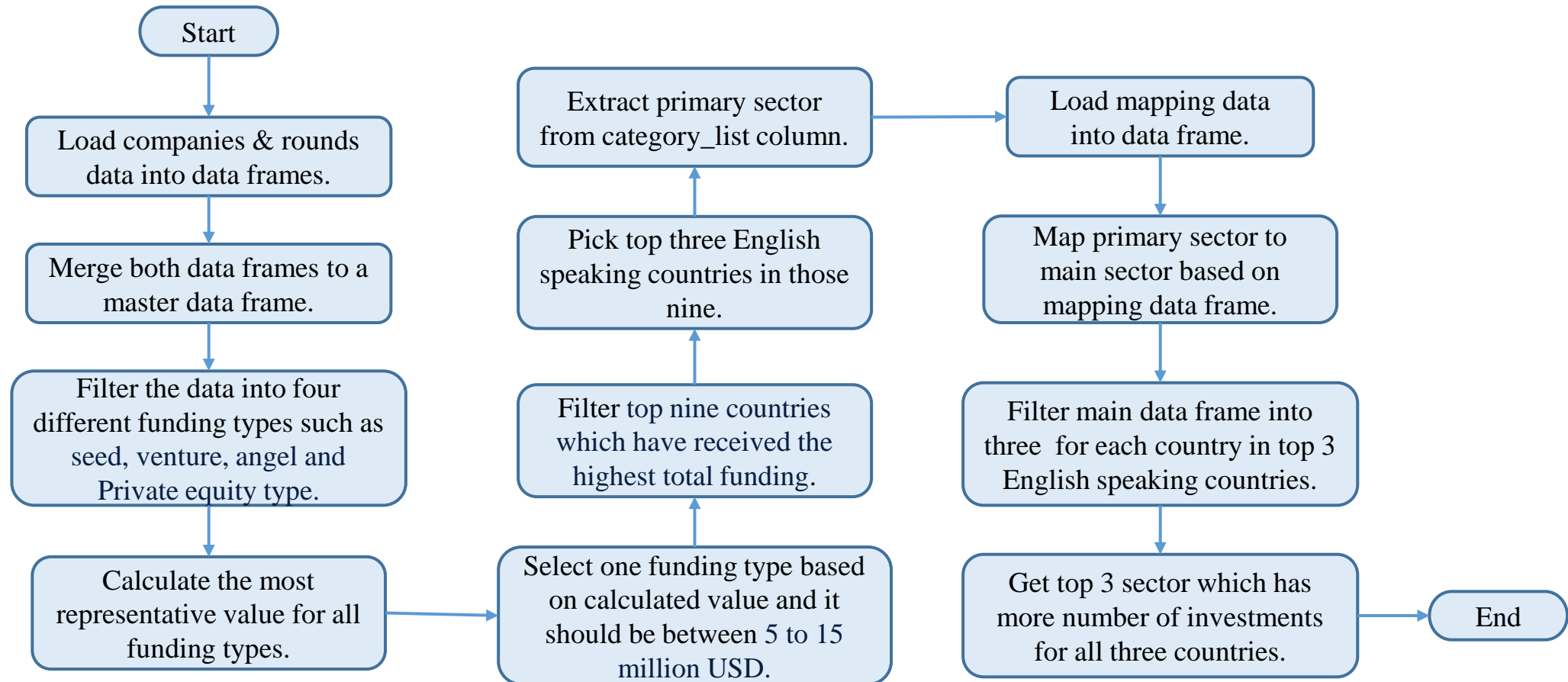
Input data

Data frame	Rows count
companies	66368
rounds2	114949

↓ Merge

Data frame	Rows count
master_frame	114949

↓ Filter 4 funding types

| Data frame	Rows count
venture	55494
seed	30524
angel	6094
private_equity	2285

Comparison of Mean and Median values

Data frame	Mean	Median
venture	1,11,08,520	50,00,000 (5 million)
seed	6,18,960	2,75,000
angel	8,45,562	4,00,000
private_equity	6,51,66,490	2,00,00,000 (20 million)

<Analysis>

Box plots for all the funding types to choose the most representative value

Venture

Seed

Angel

Private_equity
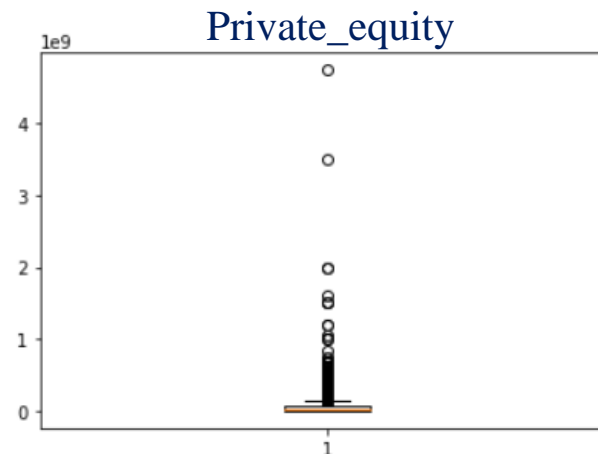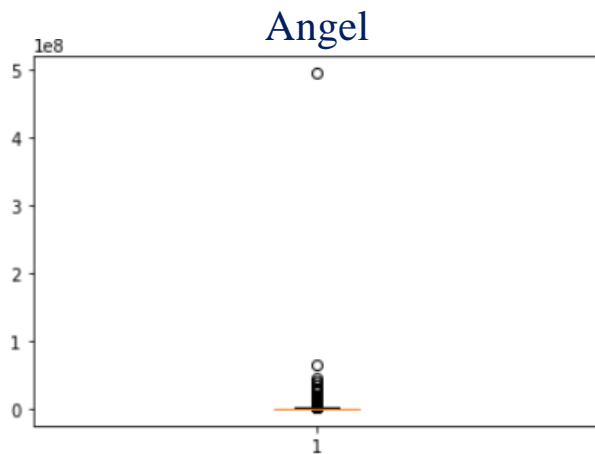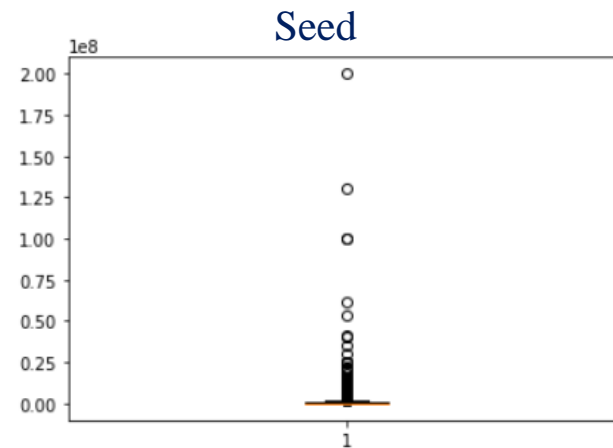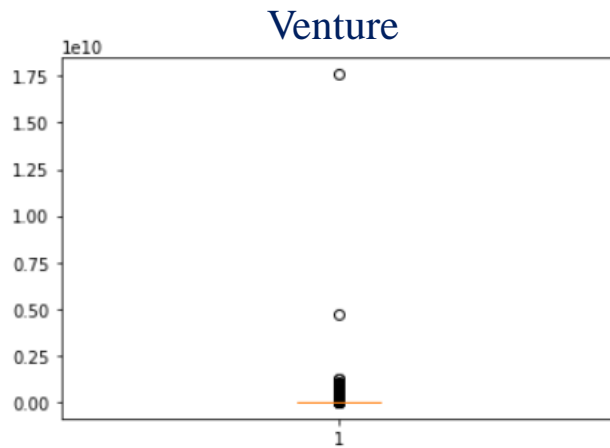
After a quick view on the plots, we can say that there are outliers in all the funding types. Because of these outliers, the mean value has been increased. So in these cases considering median value as the representative value is the best option.

As mentioned by Spark funds, it wants to invest between 5 to 15 million USD per round of investment. After evaluating all the median values, **Venture** funding type meets spark funds requirement with funding value – 5 million USD.

<Analysis>

Top 9 countries which has the highest raised amount

	raised_amount_usd
country_code	
USA	4.336758e+11
CHN	4.245042e+10
GBR	2.148563e+10
IND	1.523186e+10
CAN	1.003333e+10
FRA	7.599537e+09
DEU	7.486960e+09
ISR	7.477515e+09
JPN	3.583677e+09

Country wise data information

Country	Data frame name	Rows count	Total amount raised (in USD)
USA	D1	14155	118221584223
GBR	D2	845	6499078691
IND	D3	493	3774543602

The second condition of Spark funds is - It wants to invest only in English-speaking countries. So, we need to pick only the top 3 English speaking countries in these list. Those are USA, GBR, and IND

<Analysis>

Main sectors count in all the countries

USA

Others	3373
Cleantech / Semiconductors	2561
Social, Finance, Analytics, Advertising	2309
News, Search and Messaging	1824
Health	1048
Manufacturing	989
Entertainment	712
Automotive & Sports	228

GBR

Others	207
Cleantech / Semiconductors	150
Social, Finance, Analytics, Advertising	139
News, Search and Messaging	97
Entertainment	78
Manufacturing	52
Health	32
Automotive & Sports	26

IND

Others	157
News, Search and Messaging	76
Social, Finance, Analytics, Advertising	59
Entertainment	46
Health	33
Manufacturing	30
Cleantech / Semiconductors	29
Automotive & Sports	14

<Results>

Plot 1

Representative amount of investment in each funding type
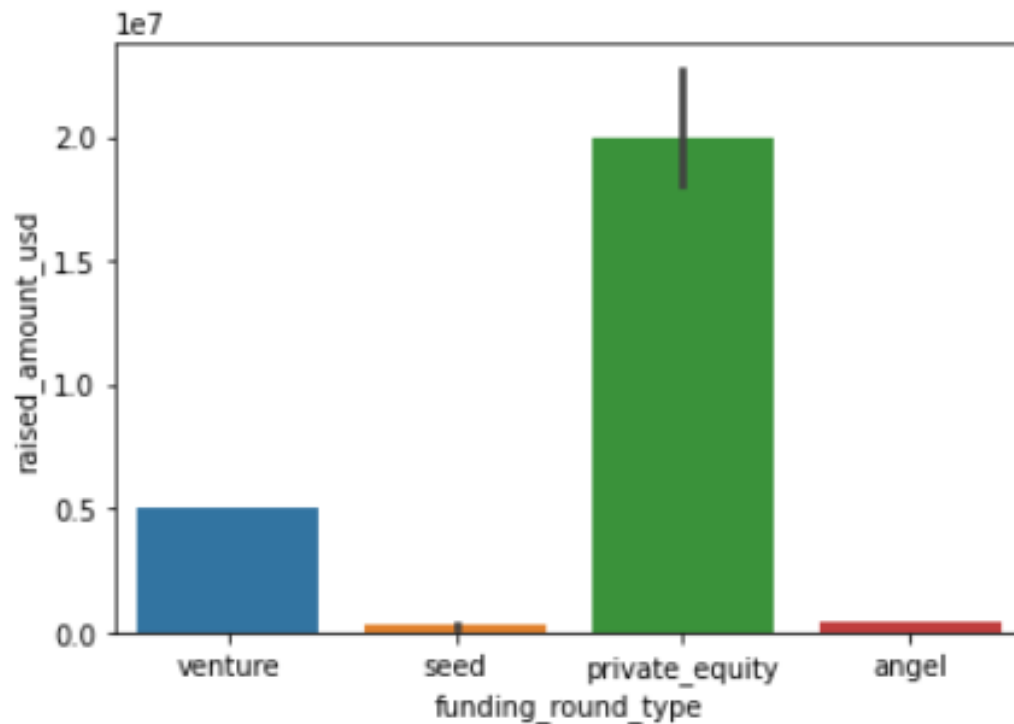
Although private_equity's investment amount is the highest, we can clearly observe that is exceeding the 15 million limit. But **venture** has the exact 5 million which satisfies the Spark fund's requirement. Remaining two types are very less when compared to venture.

<Results>

Plot 2

Top 9 countries against the total amount of investments
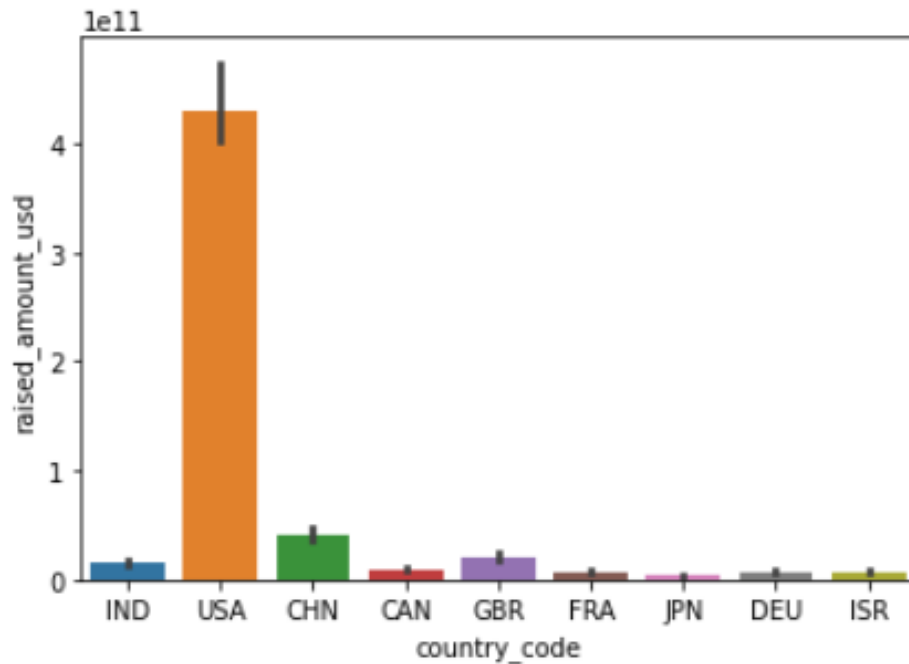
We can clearly observe that **USA** has exceeded all other countries in the total amount of investment. CHN(China) is shown as taking second place but it isn't a English speaking country. So after eliminating CHN, **GBR** and **IND** takes second and third places respectively.

<Results>

Plot 3

Number of investments in the **top 3 sectors** of the **top 3 countries**

<Conclusions>
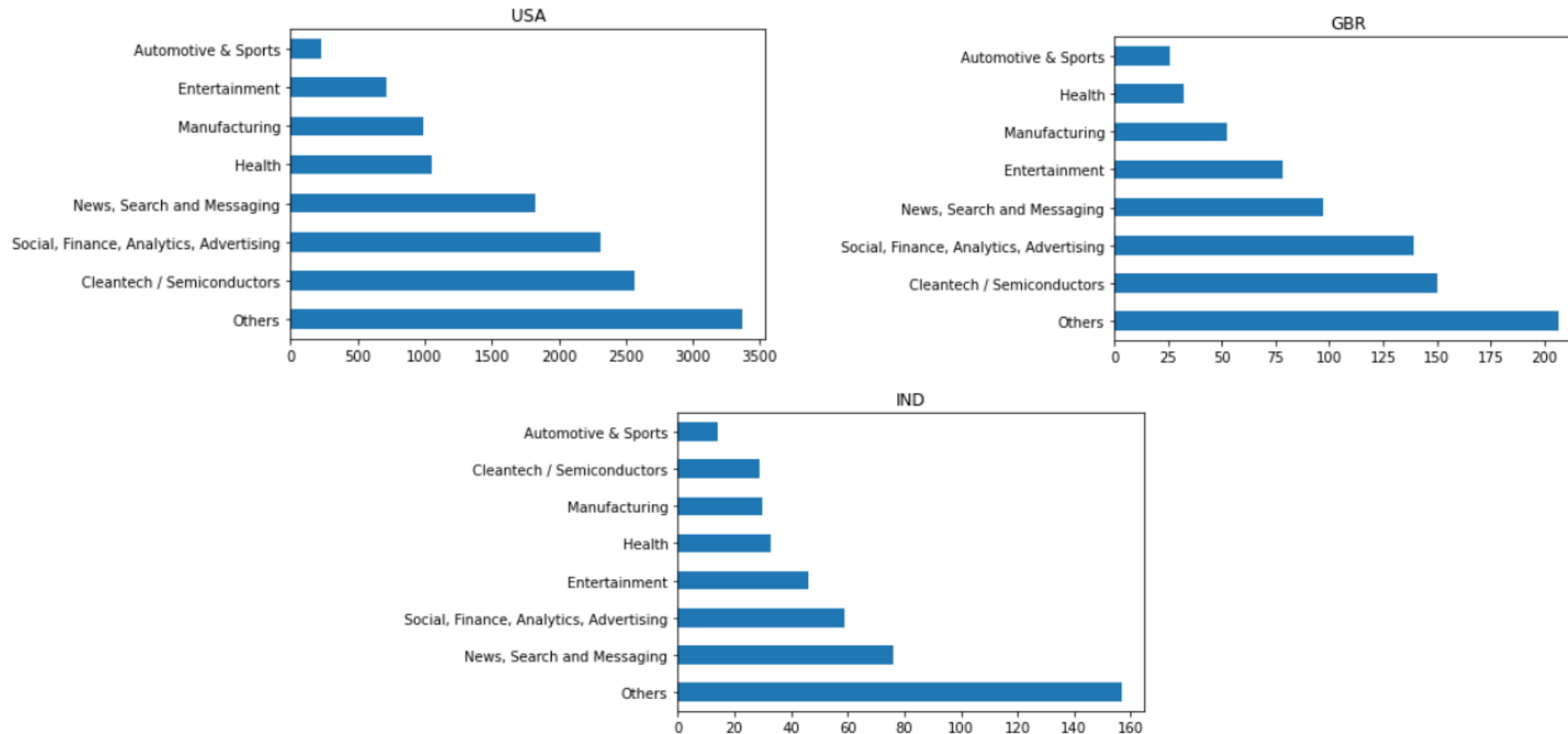
Spark funds company can be best benefitted by choosing below funding type, sector, countries and companies

1. Funding type – **Venture** (Because the highest number of investments happened in venture and also the funding money is within the estimated range)

2. Top 3 English speaking countries to invest in are - **USA**(United States), **GBR**(United Kingdom), **IND**(India)

3. First main sector to invest in all three countries is – **Others**

4. Second main sector to invest in are – **Cleantech / Semiconductors** (USA & GBR), **News, Search and Messaging**(IND)

5. Best companies to invest in are –

Country	Main sector	1st company	2nd company
USA	Others	Virtustream	Tillster
	Cleantech / Semiconductors	Quellan	Biodesix
GBR	Others	Electric Cloud	Notonthehighstreet
	Cleantech / Semiconductors	EUSA Pharma	Horizon Discovery
IND	Others	FirstCry.com	Myntra
	News, Search and Messaging	GupShup	Roadrunnr