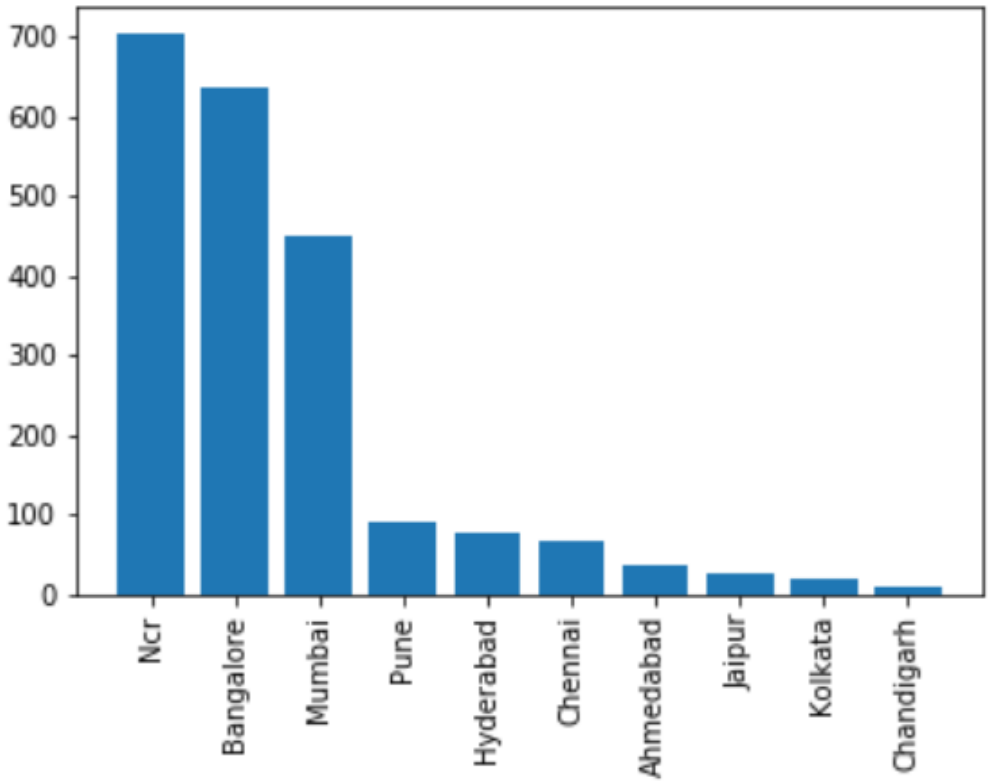
Question 1:

Code:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
df=pd.read_csv('startup_funding.csv')
df = df[df['CityLocation'].notna()]
df["CityLocation"].replace("Delhi","New Delhi",inplace=True)
df["CityLocation"].replace("bangalore","Bangalore",inplace=True)
df["CityLocation"].replace("New Delhi","NCR",inplace=True)
df["CityLocation"].replace("Noida","NCR",inplace=True)
df["CityLocation"].replace("Gurgaon","NCR",inplace=True)
df['CityLocation'] = df.CityLocation.str.title()
df
Cities = np.array(df.CityLocation,dtype=str)
len(Cities)
array = []
for i in range(len(Cities)):
    array = Cities[i].split('/')
    Cities[i] = array[0]
    Cities[i] = Cities[i].strip()
Cities = pd.Series(Cities)
Cities.value_counts()
Citys = Cities.value_counts().head(10).index
Number = Cities.value_counts().head(10).values
plt.bar(Citys,Number)
plt.xticks(rotation=90)
```

Bar Graph



Explanation

It can be clearly seen that it's most beneficial for someone to open his startup in NCR as it's the place where most fundings are received. This is partly due to

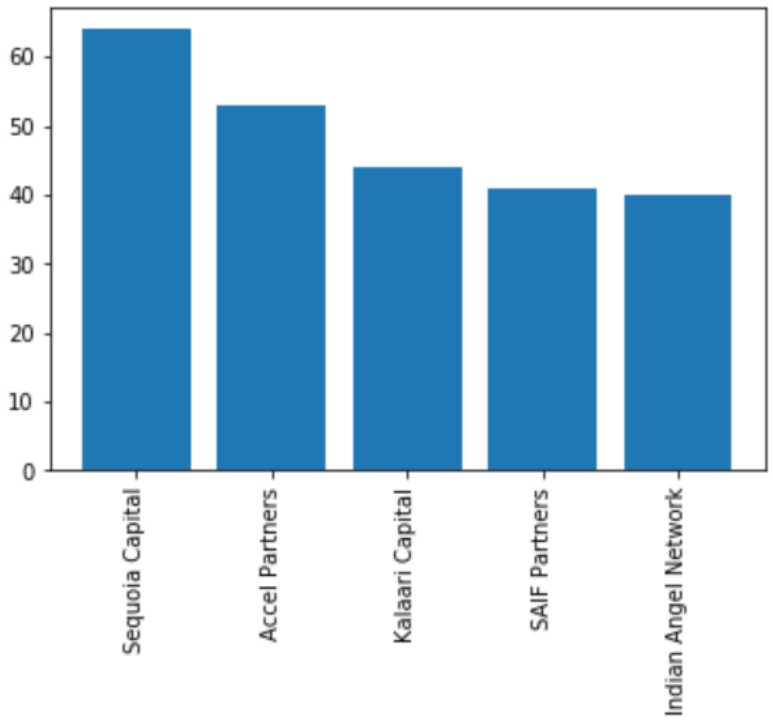
the fact that NCR has big smart cities such as Delhi, Gurgaon, and Noida which have been at the center of the digital revolution for a while. Not only NCR but Bangalore and Mumbai can also prove to be a good location to start and look for funding for a startup.

Question 2:

Code:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
df = pd.read_csv('startup_funding.csv')
a = pd.Series(df.InvestorsName,dtype=str)
a = np.array(a)
for i in range(len(a)):
    a[i] = a[i].split(',')
investors = []
for i in range(len(a)):
    if len(a[i])>1:
        for j in range(len(a[i])):
            investors.append((a[i])[j])
    else:
        investors.append(a[i][0])
for i in range(len(investors)):
    investors[i] = investors[i].strip()
investors = pd.Series(investors)
investors.value_counts()
Investor = investors.value_counts().head(5).index
Value = investors.value_counts().head(5).values
plt.bar(Investor,Value)
plt.xticks(rotation=90)
```

Graph:



Explanation:
It's pretty clear from the Bar Graph which companies have invested the most number times in the startups. The exact numbers however are:

Investors	No of times invested
Sequoia Capital	64
Accel Partners	53
Kalaari Capital	44
SAIF Partners	41
Indian Angel Network	40

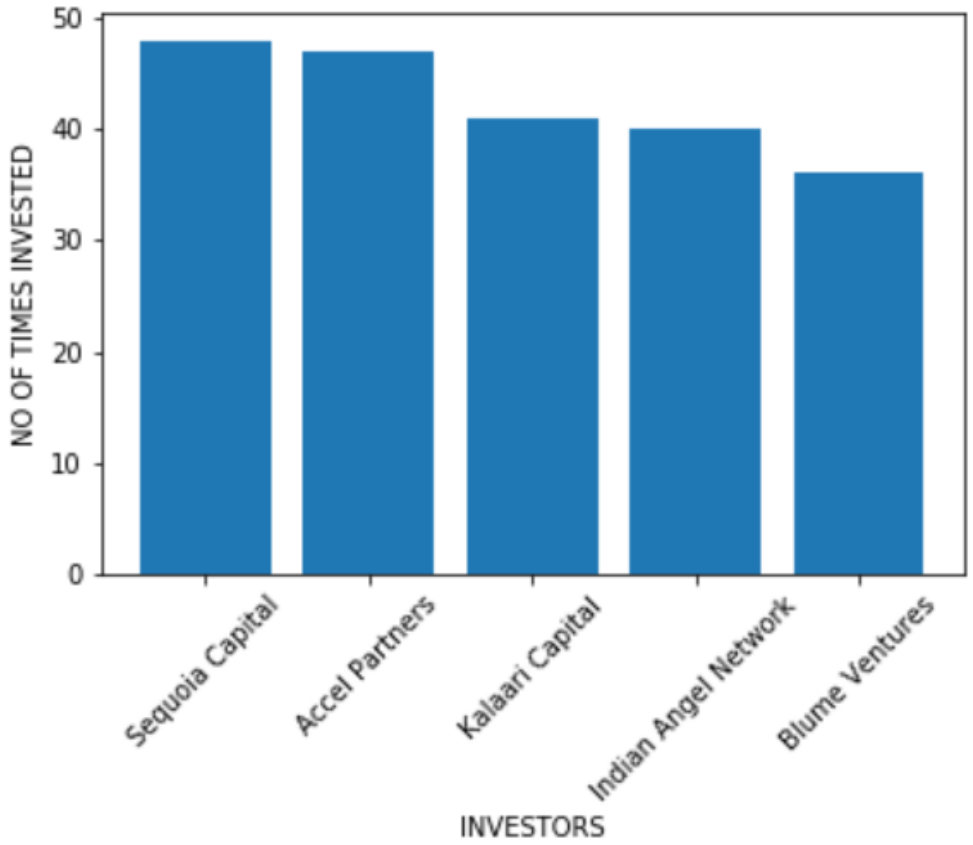
Question 3:

Code:

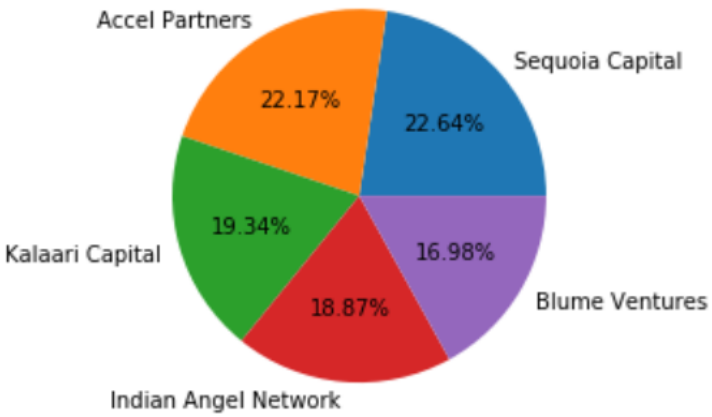
```
import pandas as pd
import numpy as np
import operator
import matplotlib.pyplot as plt
df = pd.read_csv('startup_funding.csv')
df.StartupName.unique()
df['StartupName'].replace('Oyo Rooms','Oyo',inplace=True)
df['StartupName'].replace('OyoRooms','Oyo',inplace=True)
df['StartupName'].replace('Oyorooms','Oyo',inplace=True)
df['StartupName'].replace('OYO Rooms','Oyo',inplace=True)
df['StartupName'].replace('Ola Cabs','Ola',inplace=True)
df['StartupName'].replace('Olacabs','Ola',inplace=True)
df['StartupName'].replace('Paytm Marketplace','Paytm',inplace=True)
df['StartupName'].replace('Flipkart.com','Flipkart',inplace=True)
df['InvestorsName'].replace('Undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investors','',inplace=True)
df['StartupName'].fillna('Unknown',inplace=True)
df['InvestorsName'].fillna('Unknown',inplace=True)
np_startup = np.array(df['StartupName'])
np_investors = np.array(df['InvestorsName'])
dictinvsta = {}
i = 0
for investor in np_investors:
    a = str(investor)
```

```
for investor in np_investors:
    a = str(investor)
    b = a.split(',')
    for c in b:
        c = c.strip()
        if c in dictinvsta:
            dictinvsta[c] += [np_startup[i]]
        else:
            dictinvsta[c] = [np_startup[i]]
    i=i+1
for investor in dictinvsta:
    dictinvsta[investor] = len(set(dictinvsta[investor]))
Sorteddictinvsta = dict(sorted(dictinvsta.items(), key=operator.itemgetter(1),reverse=True))
del[Sorteddictinvsta['']]
i=0
Investorname = []
Value = []
i=0
for key,value in Sorteddictinvsta.items():
    if i<5:
        Investorname.append(key)
        Value.append(value)
    else:
        break
    i=i+1
for i in range(5):
    print(Investorname[i],Value[i])
plt.bar(Investorname,Value)
plt.xticks(rotation=45)
plt.xlabel('INVESTORS')
plt.ylabel('NO OF TIMES INVESTED')
```

Bar Graph:



Pie Chart:



Explanation:

Investor Name	No of times invested
Sequoia Capital	48
Accel Partners	47
Kalaari Capital	41
Indian Angel Network	40
Blume Ventures	36

These are the top 5 investors who have invested maximum number of times in different companies.

Sequoia Capital is an American venture capital firm. The firm is headquartered in Menlo Park, California and mainly focuses on the technology industry. It has backed companies that now control $1.4 trillion of combined stock market value.

Accel, formerly known as Accel Partners, is an American venture capital firm. Accel works with startups in seed, early and growth-stage investments. The company has offices in Palo Alto, California and San Francisco, California, with additional operating funds in London, India and China.

Kalaari is a $160 million venture capital fund with a strong advisory team in Bangalore investing in early-stage, technology-oriented companies in India.

Kalaari Capital invests in the unknown Indian entrepreneur who is poised to become tomorrow's global leader. They are India's leading investor in early-stage businesses, nurturing them throughevery aspect of growth on the transformative journey toward success.

Indian Angel Network is a group of primarily Indian angel investors funding early-stage startups. The group had 450 members from 11 countries in 2017. The members include Ajai Chowdhry, Rajan Anandan, and Anand Ladsairya. The group has invested in companies, such as PregBuddy and SuperProfs.

In 2010, Karthik and Sanjay started **Blume Ventures**, with a mission to reimagine startup finance for India. They did that by creating an unusual kind of venture firm, one that could move with the speed of an angel investor, but be institutionalized in its approach. Blume bridged a gap that had existed in the Indian venture market then, between local angel networks and larger global venture capital firms.

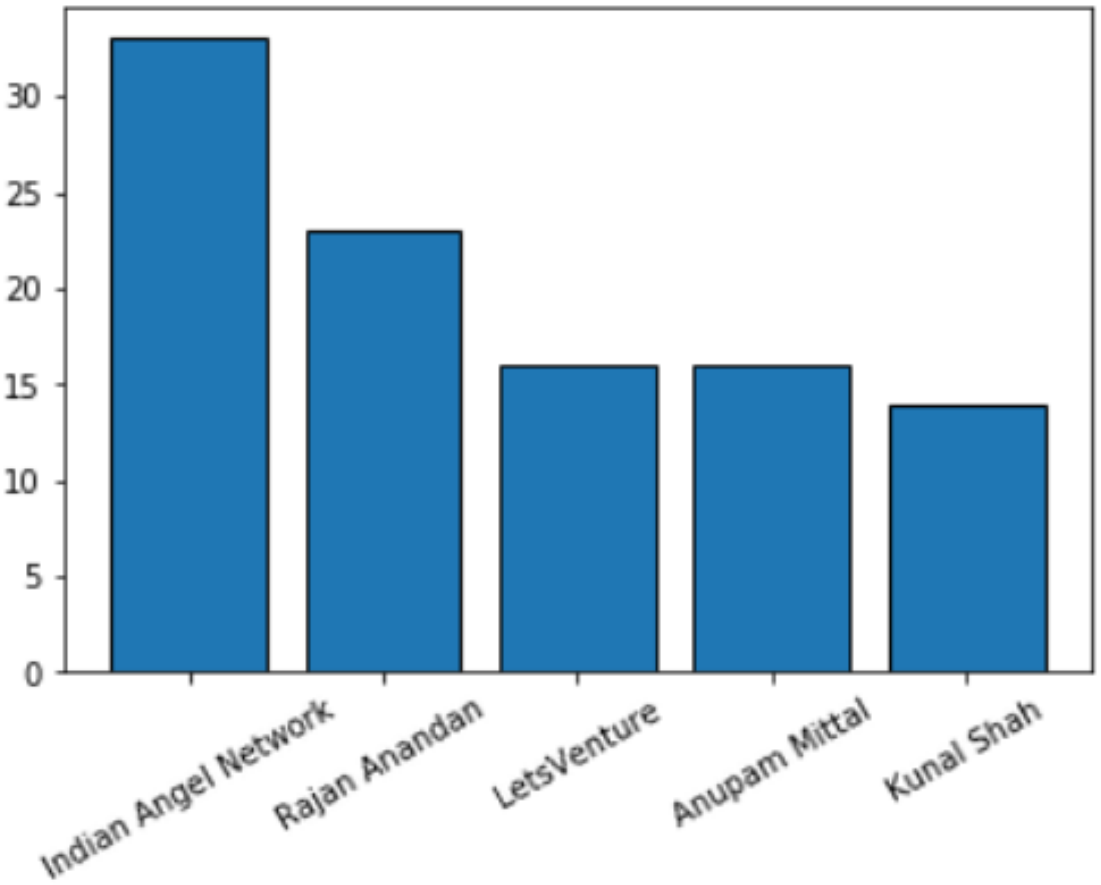
Question 4:

Code:

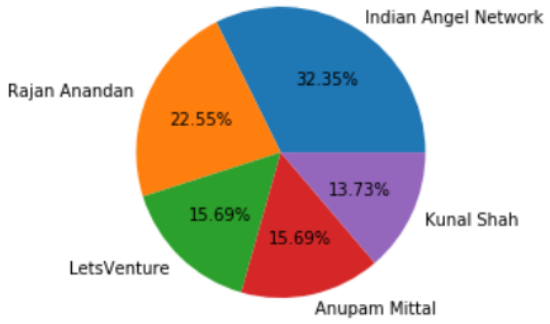
```
import pandas as pd
import numpy as np
import operator
import matplotlib.pyplot as plt
df = pd.read_csv('startup_funding.csv')
df.StartupName.unique()
df['StartupName'].replace('Oyo Rooms','Oyo',inplace=True)
df['StartupName'].replace('OyoRooms','Oyo',inplace=True)
df['StartupName'].replace('Oyorooms','Oyo',inplace=True)
df['StartupName'].replace('OYO Rooms','Oyo',inplace=True)
df['StartupName'].replace('Ola Cabs','Ola',inplace=True)
df['StartupName'].replace('Olacabs','Ola',inplace=True)
df['StartupName'].replace('Paytm Marketplace','Paytm',inplace=True)
df['StartupName'].replace('Flipkart.com','Flipkart',inplace=True)
df['InvestorsName'].replace('Undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investors','',inplace=True)
df['StartupName'].fillna('Unknown',inplace=True)
df['InvestorsName'].fillna('Unknown',inplace=True)
df.InvestmentType.loc[df.InvestmentType == 'SeedFunding'] = 'Seed Funding'
df.InvestmentType.loc[df.InvestmentType == 'Crowd funding'] = 'Crowd Funding'
df.InvestmentType.loc[df.InvestmentType == 'PrivateEquity'] = 'Private Equity'
df = df[(df.InvestmentType == 'Seed Funding')|(df.InvestmentType == 'Crowd Funding')]
np_startup = np.array(df['StartupName'])
np_investors = np.array(df['InvestorsName'])
dictinvsta = {}
i = 0
for investor in np_investors:
    a = str(investor)
```

```
    b = a.split(',')
    for c in b:
        c = c.strip()
        if c in dictinvsta:
            dictinvsta[c] += [np_startup[i]]
        else:
            dictinvsta[c] = [np_startup[i]]
    i=i+1
for investor in dictinvsta:
    dictinvsta[investor] = len(set(dictinvsta[investor]))
Sorteddictinvsta = dict(sorted(dictinvsta.items(), key=operator.itemgetter(1),reverse=True))
del[Sorteddictinvsta['']]
i=0
Investorname = []
Value = []
i=0
for key,value in Sorteddictinvsta.items():
    if i<5:
        Investorname.append(key)
        Value.append(value)
    else:
        break
    i=i+1
for i in range(5):
    print(Investorname[i],Value[i])
plt.bar(Investorname,Value,edgecolor='black')
plt.xticks(rotation=30)
```

Graphs:



Pie Chart:



Explanation:

Investor	No of times invested
Indian Angel Network	33
Rajan Anandan	23
LetsVenture	16
Anupam Mittal	16
Kunal Shah	14

These are the top 5 investors who have invested in different companies by ‘Crowd Funding’ or ‘Seed Funding’.

Indian Angel Network is a group of primarily Indian angel investors funding early-stage startups. The group had 450 members from 11 countries in 2017. The members include Ajai Chowdhry, Rajan Anandan, and Anand Ladsairya. The group has invested in companies, such as PregBuddy and SuperProfs.

As part of the leadership team at Sequoia Capital India, **Rajan Anandan** is focusing on developing its early-stage program Surge, into the world's top scale-up program for startups by acting as an investment advisor and mentor to the programme's founders. Prior to Sequoia, as Head of Google India and Southeast Asia, Rajan played a key role in expanding the regions internet ecosystem while accelerating Google's innovation and growth units. He is also a

prolific angel investor who has backed a large number of successful startups at very early stages. Rajan also led Microsoft and Dell in India and was earlier a Partner at McKinsey & Company in Chicago.

LetsVenture enables startups looking to raise seed / angel money to create investment ready profiles online, and connect to accredited Investors. We also allow startups to get their business plans reviewed by our experts as well as connect to mentors. Once a startup has verbal commitments from investors, we help them in the funding closure process through our Commitment-to-Closure package. The package takes care of closure of term sheet & shareholders agreement, and complete legal & financial due diligence.

Valuations of companies where **Anupam Mittal** is invested are hitting the roof as Indian e-commerce booms. With over 40 investments in Interactive Avenues, Ola Cabs, Druva, Sapience, Pretty Secrets, Café Zoe and others, the value of Mittal's portfolio has jumped 10-fold in the last couple of years.

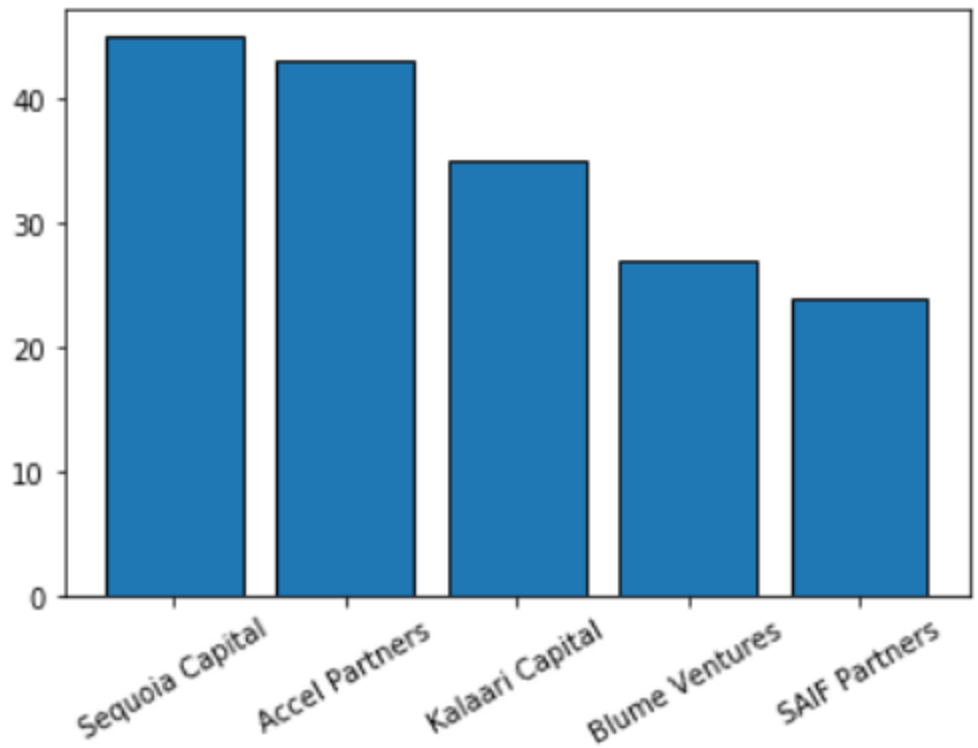
Question 5:

Code:

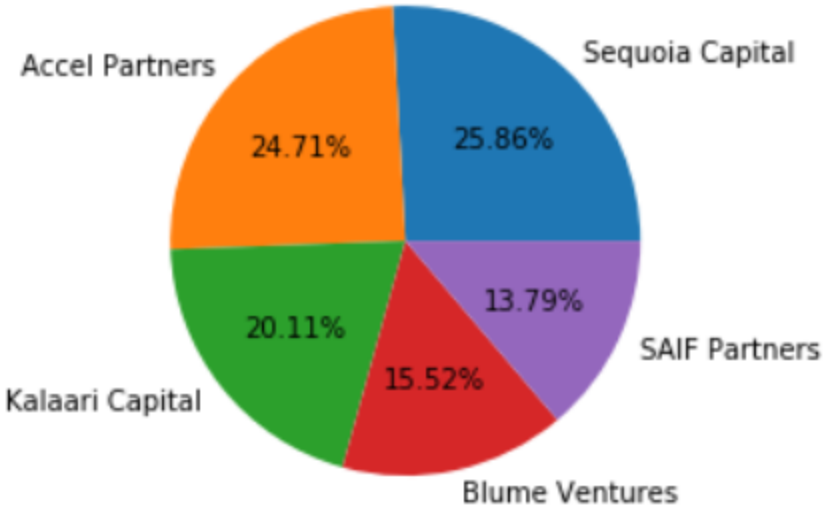
```
import pandas as pd
import numpy as np
import operator
import matplotlib.pyplot as plt
df = pd.read_csv('startup_funding.csv')
df.StartupName.unique()
df['StartupName'].replace('Oyo Rooms','Oyo',inplace=True)
df['StartupName'].replace('OyoRooms','Oyo',inplace=True)
df['StartupName'].replace('Oyorooms','Oyo',inplace=True)
df['StartupName'].replace('OYO Rooms','Oyo',inplace=True)
df['StartupName'].replace('Ola Cabs','Ola',inplace=True)
df['StartupName'].replace('Olacabs','Ola',inplace=True)
df['StartupName'].replace('Paytm Marketplace','Paytm',inplace=True)
df['StartupName'].replace('Flipkart.com','Flipkart',inplace=True)
df['InvestorsName'].replace('Undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('undisclosed investors','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed investor','Undisclosed Investors',inplace=True)
df['InvestorsName'].replace('Undisclosed Investors','',inplace=True)
df['StartupName'].fillna('Unknown',inplace=True)
df['InvestorsName'].fillna('Unknown',inplace=True)
df.InvestmentType.loc[df.InvestmentType == 'SeedFunding'] = 'Seed Funding'
df.InvestmentType.loc[df.InvestmentType == 'Crowd funding'] = 'Crowd Funding'
df.InvestmentType.loc[df.InvestmentType == 'PrivateEquity'] = 'Private Equity'
df = df[(df.InvestmentType == 'Private Equity')]
np_startup = np.array(df['StartupName'])
np_investors = np.array(df['InvestorsName'])
dictinvsta = {}
i = 0
for investor in np_investors:
    a = str(investor)
```

```
    b = a.split(',')
    for c in b:
        c = c.strip()
        if c in dictinvsta:
            dictinvsta[c] += [np_startup[i]]
        else:
            dictinvsta[c] = [np_startup[i]]
    i=i+1
for investor in dictinvsta:
    dictinvsta[investor] = len(set(dictinvsta[investor]))
Sorteddictinvsta = dict(sorted(dictinvsta.items(), key=operator.itemgetter(1),reverse=True))
del[Sorteddictinvsta['']]
i=0
Investorname = []
Value = []
i=0
for key,value in Sorteddictinvsta.items():
    if i<5:
        Investorname.append(key)
        Value.append(value)
    else:
        break
    i=i+1
for i in range(5):
    print(Investorname[i],Value[i])
plt.bar(Investorname,Value,edgecolor='black')
plt.xticks(rotation=30)
```

Graphs:



Pie Charts:



Explanation:

Investor Name	No of times invested
Sequoia Capital	45
Accel Partners	43
Kalaari Capital	35
Blume Ventures	27
SAIF Partners	24

Sequoia Capital is an American venture capital firm. The firm is headquartered in Menlo Park, California and mainly focuses on the technology industry. It has backed companies that now control $1.4 trillion of combined stock market value.

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SAIF Partners is a leading private equity firm that provides primarily growth capital to companies in China or companies with significant operations or business in China. Our primary areas of focus include internet+ & TMT, healthcare & new materials and clean technologies, etc.