A PROJECT

On

STUDENT DATA BASE ANALYSIS USING PYTHON

BACHELOR OF TECHNOLOGY

By

DEPARTMENT OF DATA SCIENCE

RAVU AKSHAYA   **21KP1A4485**

Under the esteemed Guidance of

Er . S AKSHAY KUMAR

CS CODENZ

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CS CODENZ

GUDIVADA – 521 323, ANDHRA PRADESH., INDIA

2022-2023

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<u>CERTIFICATE</u>

This is to certify that dissertation entitled **"STUDENT DA BASE ANALYSIS"** submitted. By **RAVU AKSHYA(21KP1A4485)** in the **BACHELOR OF TECHNOLOGY** from **CS CODENZ** is a record of Bonafide work carried out them under my guidance and supervision during the year 2022-2023.

Signature of the Supervisor   Signature of the HOD

Er. S AKSHAY KUMAR   **D.KOTESWARA RAO ,** MTech

CS CODENZ   Assistant professor & HOD

Data science, NRIIT

DECLARATION

RAVU AKSHAYA (21KP1A4485) declared that the dissertation report entitled **"STUDENT DATA BASE ANALYSIS"** is no more than 1,00,000 words in length including quotes and exclusive of tables, figures, bibliography, and references.

Roll No	Name	Signature
21KP1A4485	RAVU AKSHAYA	_____

Date:
Place:

ACKNOWLEDGEMENT

This report dissertation could not have been   written without   the support   of our guide

Er . S AKSHAY KUMAR , CS CODENZ who not only served as our superior but also encouraged and challenged us throughout our academic program our foremost thanks goes to his. Without his this dissertation would not have been possible. We appreciate him vast knowledge in many areas, and his insights, suggestions and guidance that helped to shape our research skills

It is needed with a great sense of pleasure and immense sense of gratitude that we acknowledge the help of these individuals. We owe many thanks to many people who helped and supported us during the writing of this report

We are thankful to our project coordinator **Er . S AKSHAY KUMAR, CS CODENZ**, for his continuous support

We express our sincere thanks to our respected for bet valuable suggestion and constant motivation that greatly helped us in successful completion of project We also take the privilege to express our heartfelt gratitude to **Er . S AKSHAY KUMAR, CS CODENZ**

We are thankful to all faculty members for extending their kind cooperation and assistance Finally, we are extremely thankful to our parents and friends for their constant helped moral support

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ABSTRACT

The Primary objective of this **"STUDENTS DATABASE ANALYSIS"** is to collecting the student data from different branches and analyze the data and grouping them based on their marks, age, branch and ranking them based on marks and visualizing the data.

The project is mainly for understanding what is Data analysis and visualization. we perform various Data Visualization and Analysis tasks on the taken Student dataset.

REQUIREMENTS

HARDWARE REQUIREMENTS

- Personal Computer / Laptop with minimum RAM (8 GB), ROM (128 GB)
- Processor(i5)
- Good latency internet access
- Graphics Processing Unit (GPU)
- Operating System, Monitor
- Internet Connection

SOFTWARE REQUIREMENTS

- Python installation
- Integrated Development Environment (IDE)
- Package Management
- Data Manipulation and Analysis , Statistical Analysis
- Data Visualization, Machine Learning
- Database Access

FUNCTIONAL REQUIREMENTS

- Data Import and Ingestion
- Data Cleaning and Preprocessing
- Exploratory Data Analysis (EDA)
- Data Visualization
- Model Evaluation and Interpretation
- Feature Engineering

<u>DESCRIPTION</u>

In the realm of educational institutions, understanding student performance and behaviour is essential for effective decision-making and improvement strategies.

This project focuses on analysing a student database using Python, versatile programming language well-suited for data manipulation, analysis, and visualization.

STEPS OF DATA ANALYSIS

1. Collecting the data
2. Cleaning the data
3. Analysing the data
4. Sharing your results
5. Summary

CODE

1) COLLECTING THE DATA

Pandas - Helps to create a dataset and it is also a library in python.

Numpy- Numerical computing library for mathematical operations and array manipulation.

Matplotlib- Matplotlib is a powerful Python library used for creating static, interactive, and publication-quality visualizations.

IMPORTING LIBRARIES AND DATASET-

```python
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
df=pd.read_excel('dsdbx.xlsx')
df.drop(['EMAIL','Timestamp'],inplace=True,axis=1)
print(df)
```

```
        +Email address                STUDENT NAME  \
0       vennachandana1@gmail.com          Venna Chandana
1       adilakshmi4765@gmail.com          N.Venkatesh
2       sravankumar7156@gmail.com         Sravan Kumar
3       sandeepyeruva1124@gmail.com       Yeruva sandeep reddy
4       sivajibejjanki@gmail.com          B.sivaji
5       ramyayalabolu123r@gmail.com       Y.Ramya
6       charithareddy3914@gmail.com       P.charitha reddy
7       gayathripolepalli70@gmail.com     POLEPALLI. GAYATHRI
8       syedtasleem07@gmail.com           Syed Tasleem Afroze
9       sowjanyathota11@gmail.com         T.SOWJANYA
10      tammasahithi1@gmail.com           Tamma Sahithi
11      podilisarayu6@gmail.com           PODILI LAKSHMISARAYU
12      shaikkarishma811@gmail.com        shaik karishma
13      kumarvalaparla890@gmail.com       Venkata Aravind Kumar.V
14      patchachinnu3@gmail.com           Patcha Jaswanth
15      manu952041@gmail.com              Pachipulusu Manohar
16      vanukuri.raghava@gmail.com        Raghava
17      shaiksakina05@gmail.com           Shaik sameer
18      us465249@gmail.com                S sk usman
19      vallu.srinu756939@gmail.com  Vallu Srinu Siva Subrahmanyam
20      undelachandraobulareddy@gmail.com    Undela Chandra Obula Reddy
21      farukh.786syed@gmail.com          SYED.FARUKH
22      anushayalabolu12@gmail.com        Anusha yalabolu
23      madhulathasure9@gmail.com         SURE. MADHULATHA
24      thammisettysrikanthraj9@gmail.com       T.Srikanth
```

25	shiakmobin2002@gmail.com	Shaikmobin
26	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar
27	ravuakshaya@gmail.com	Ravu.akshaya
28	hemasanjushasanikommu828@gmail.com	hema sanjusha
29	ynagasasikumar@gmail.com	Y Naga Sasi Kumar
30	rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa
31	harikabangaram313@gmail.com	Harika
32	indupriya72216@gmail.com	Indu Priya Patcha
33	bhavyasrisajja2003@gmail.com	Bhavya sri
34	sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha
35	bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad
36	nikitharayapati9@gmail.com	Nikhitha Rayapati
37	indhupotla123@gmail.com	indhu priya
38	abdulabdul22070@gmail.com	Syed.Abdul Rehaman
39	jaffershaik718@gmail.com	Jaffer shaik
40	rabbanishaik7356@gmail.com	SHAIK RABBANI
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42	thiriveedhinagajyothi@gmail.com	T. Nagajyothi
43	paladugudurga1@gmail.com	P. Durga Sri
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45	mvkbn1312@gmail.com	R.M.V.K.Brahma Naidu
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48	sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha
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50	arundathi0508@gmail.com	PANDA UMA ARUNDATHI
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3	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi
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11	21KP1A4480	PODILI RAMESH	PODILI ADILAKSHMI
12	21KP1A4496	SHAIK BAJI	SHAIK KHADRUN
13	21KP1A44C0	Veeraswamy.v	Lakshmi.v
14	21KP1A4477	Patcha apparao	Patcha sukanya
15	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani
16	21KP1A44C3	Srinivasa reddy	Jyothi
17	21KP1A44A3	Shaik Rahim babu	Shaik Raziya
18	21KP1A4492	S sk mastan vali	Mahabobba
19	21KP1A44C1	Vallu Srinivasa Rao	Vallu Surya kumari
20	21KP1A44B9	Undela Chinna Obula Reddy	Undela GuruLakshmi
21	21KP1A44A7	SYED.BAJI	SYED.SARTHAJ BEGUM
22	21KP1A44C7	Chinna anjayya	Lakshmi narayanama

```
23  21KP1A44A4          SURE.VISWANADHAM        SURE.SAI LAKSHMI
24  21KP1A44B5              T.vasu                T.jaya
25  21KP1A4497          shaik karimullah        Shaik rihana
26  21KP1A4493          Shaik.Kareem            Shaik.Farjana
27  21KP1A4485          Ravu.srinivasrao        Ravu.aruna kumari
28  21KP1A4491            musalareddy            sivaparvathi
29  21KP1A44D0          Y Rama mohanarao          Y Lalitha
30  21KP1A44A0          Shaik.mahaboobjani        Shaik.munni
31  22KP5A4401            A.Subramanyam          A.Dhana Bhagyam
32  21KP1A4476          Appa rao Patcha          Renuka Patcha
33  21KP1A4490          Mohan krishna            Usha rani
34  21KP1A44C4        Vejendla Srinivass Rao  Vejendla Laxmi Prasanna
35  21KP1A44B2          T sathyanarayana          T rama devi
36  21KP1A4487        Rayapati hanumathrao      Rayapati malleswari
37  21KP1A4483          Lakshmanarayana            Sujatha
38  21KP1A44A6          Syed.Meera Sharif        Bandi.Krishna veni
39  21KP1A4495            shaik.LaiLaha          shaik.Ramjan bee
40  21KP1A4499        SHAIK MOHAMMAD HANIF          SHAIK MALIN
41  21KP1A44C9        Yalamanchi  subba Rao      Yalamanchi sunitha
42  21KP1A44B7            T. Venkayya          T. Ramanjamma
43  21KP1A4473          P. Amareswara rao        P. Seshu Kumari
44  21KP1A44A2        SHAIK KUDHAN VALI        SHAIK SAIDA HUSSANBI
45  21KP1A4489            Yedukondalu              Nirmala
46  21KP1A4471          Narra SrinivasaRao        Narra Ramadevi
47  21kp1a44b4          Venkata subbiah          Ravanamma
48  21KP1A4469        Nallabothu. Anjaneyulu    Nallabothu. Anitha
49  21KP1A4484          Puli mallikarjuna        Puli ramadevi
50  21KP1A4474          PANDA NARAYANA RAO    PANDA PRASANNA LAKSHMI
51  21KP1A44C6          Chinni Pratap Kumar        Chinni Bhargavi


   COURSE  CGPA  AGE                    BRANCH  \
0    DS    8    19              Data science
1    CSE   83   19                  CSE-DS
2    MECH  7    20                    mech
3    CSE   9.5  20                    CSE
4    DS    0.72 23              Computer science
5    DS    80   19                    CSD
6    DS    70   19                    CSD
7    DS    10   19              Data Science
8    MECH  8    19                    DS
9    DS    8    19              DATA SCIENCE
10   DS    7.7  19            CSE (Data science)
11   DS    7.5  19              DATA SCIENCE
12   DS    9    19                    ds
13   DS    0.98 20              Data Science
14   CSE   0.99 20              Data science
15   MECH  8.5  19                    NaN
16   DS    7    19              Data science
17   DS    80   20                    DS
18   DS    50   19                    DS
19   DS    73   20  Computer Science Engineering& Data Science
20   DS    9.2  20              Computer Science
```

```
21   DS   0.7   19              DS
22   DS   75    19              CSD
23   DS   10    20         Data science
24   DS   0.75  19         Data Science
25   DS   8.8   21              Ds
26   ECE   8    20             NaN
27   DS   80    19              Ds
28   CSE   73   18h             cse
29   DS   9.2   20             NaN
30   DS    8    18         Data science
31   DS   75    19         Data science
32   DS   0.75  18         Data Science
33   DS   70    19              Ds
34   CSE   70   19       Cse- Data Science
35   DS   9.6   19             NaN
36   DS   80    19              Ds
37   CSE   72   19              cse
38   DS   90    20              DS
39   CSE   7O   19              cse
40   DS   9.5   21              CSD
41   DS   75    19              DS
42   DS   75    19              DS
43   DS   80    20        CSD(Data Science)
44   DS   80    20          DATASCIENCE
45   DS    7    20         Data science
46   DS   7.5   19       CSD (Data science)
47   CSE   10   19              Da
48   DS   90    21              CSD
49   DS   8.3   21         Data science
50   DS   87    19              CSD
51   DS   80    19         Data Science
```

	CURRENT SEMISTER	AADHAAR NO
0	2-2	636336922883
1	II-II	602515258256
2	4	930319053088
3	2-3	576154990146
4	2-2	895444662410
5	2-2	724574588425
6	2.2	810177524502
7	2-2	721819168061
8	2-2	617020354793
9	2-2	338666948901
10	2-2	685349832128
11	2-2	458689741091
12	2-2	663048521599
13	2-2	510305345824
14	2-2	744020413963
15	2-2	559366114423
16	2-2	424973081348
17	2-2	529261464345
18	2-2	568753875709

```
19         4    ************
20        2-2   693621780842
21        2-2   764320730678
22        2-2   830785066037
23        2-2   776486062608
24        2-2   673112205183
25        2.2   904355656468
26        2-2   334708289154
27        2.2   544305783128
28        2-2   422314863763
29        2-2   448172496292
30        2-2   406976169351
31        2-2   574930568520
32        2-2   573041880949
33        2-2   274736890047
34        2_2   587480445790
35        2-2   357228202835
36        2-2   963360828294
37        2-2   524345891620
38        2-2   347853509974
39        2nd   912229276699
40        2-2   205933956204
41         4    742366316353
42         4    330477145525
43        2-2   692162661608
44       2-2    466722650274
45        2-2 2387 7088 9424
46         4    835457902826
47        2-2   746109575146
48        2-2   208611060176
49        2.2   950519207474
50        2-2   652650486629
51    4th semester   639534870436
```

df.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 52 entries, 0 to 51
Data columns (total 11 columns):
 #  Column         Non-Null Count  Dtype
--- ------         --------------  -----
 0  Email address   52 non-null    object
 1  STUDENT NAME     52 non-null    object
 2  ROLL NUMBER      52 non-null    object
 3  FATHER NAME      52 non-null    object
 4  MOTHER NAME      52 non-null    object
 5  COURSE          52 non-null    object
```

```
 6   CGPA            52 non-null    object
 7   AGE             52 non-null    object
 8   BRANCH             48 non-null    object
 9   CURRENT SEMISTER  52 non-null    object
 10  AADHAAR NO        52 non-null    object
dtypes: object(11)
memory usage: 4.6+ KB
```

df.ffill(inplace=True,axis=1)

df.isnull().sum()

Output :

```
Email address     0
STUDENT NAME      0
ROLL NUMBER       0
FATHER NAME       0
MOTHER NAME       0
COURSE            0
CGPA              0
AGE               0
BRANCH            0
CURRENT SEMISTER  0
AADHAAR NO        0
dtype: int64
```

df.shape

Output:
    (52,11)

df.describe()

Output:

15

	Email address	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	CURRENT SEMISTER	AADHAAR NO
count	52	52	52	52	52	52	52	52	52	52	52
unique	52	52	52	52	52	4	27	6	24	9	52
top	vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	80	19	DS	2-2	636336922883
freq	1	1	1	1	1	40	7	30	7	37	1

```
df.replace(['***********'],'223678754646')
```

Output :

Email address	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	CURRENT SEMISTER	AADHAAR NO
vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	8	19	Data science	2-2	636336922883
adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83	19	CSE-DS	II-II	602515258256
sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7	20	mech	4	930319053088
sandeepyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.5	20	CSE	2-3	576154990146
sivajibejjanki@gmail.com	B.sivaji	22kp5a4402	B.lakshmaiah	B.veramma	DS	0.72	23	Computer science	2-2	895444662410
ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80	19	CSD	2-2	724574588425
charithareddy3914@gmail.com	P.charitha reddy	21KP1A4475	P.Madhava Reddy	P.Kavitha	DS	70	19	CSD	2.2	810177524502
gayathripolepalli70@gmail.com	POLEPALLI.GAYATHRI	21KP1A4481	POLEPALLI.GURUBRAHMA CHARI	POLEPALLI.SRIDEVI	DS	10	19	Data Science	2-2	721819168061
syedtasleem07@gmail.com	Syed Tasleem Afroze	21KP1A44A9	Syed Rahiman	Syed Naseema	MECH	8	19	DS	2-2	617020354793

Displaying the column names–

```
df.columns
```

Output:
Index (['Email address', 'STUDENT NAME', 'ROLL NUMBER', 'FATHER NAME',
 'MOTHER NAME', 'COURSE', 'CGPA', 'AGE', 'BRANCH', 'CURRENT SEMISTER',
    'AADHAAR NO'],dtype='object')

Renaming the columns name-

```
df.rename(columns={'Email address':'Gmail','CURRENT
SEMISTER':'SEMISTER','AADHAARNO':'UIDAINO'},inplace=True)
print(df.columns)
```

Output: Index (['Gmail', 'STUDENT NAME', 'ROLL NUMBER', 'FATHER NAME', 'MOTHER NAME','COURSE', 'CGPA', 'AGE', 'BRANCH', 'SEMISTER', 'UIDAI NO'],dtype='object')

```
df.replace({'7O':70}, inplace=True)
print(df)
```

Output:

	Gmail	STUDENT NAME \
0	vennachandana1@gmail.com	Venna Chandana
1	adilakshmi4765@gmail.com	N. Venkatesh
2	sravankumar7156@gmail.com	Sravan Kumar
3	sandeepyeruva1124@gmail.com	Yeruva Sandeep reddy
4	sivajibejjanki@gmail.com	B. Sivaji
5	ramyayalabolu123r@gmail.com	Y. Ramya
6	charithareddy3914@gmail.com	P. charitha reddy
7	gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI
8	syedtasleem07@gmail.com	Syed Tasleem Afroze
9	sowjanyathota11@gmail.com	T. SOWJANYA
10	tammasahithi1@gmail.com	Tamma Sahithi
11	podilisarayu6@gmail.com	PODILI LAKSHMISARAYU
12	shaikkarishma811@gmail.com	Shaik Karishma
13	kumarvalaparla890@gmail.com	Venkata Aravind Kumar .v
14	patchachinnu3@gmail.com	Patcha Jaswanth
15	manu952041@gmail.com	Pachipulusu Manohar
16	vanukuri.raghava@gmail.com	Raghava
17	shaiksakina05@gmail.com	Shaik sameer
18	us465249@gmail.com	S sk usman
19	vallu.srinu756939@gmail.com	Vallu Srinu Siva Subrahmanyam
20	undelachandraobulareddy@gmail.com	Undela Chandra Obula Reddy
21	farukh.786syed@gmail.com	SYED.FARUKH
22	anushayalabolu12@gmail.com	Anusha yalabolu
23	madhulathasure9@gmail.com	SURE. MADHULATHA
24	thammisettysrikanthraj9@gmail.com	T.Srikanth
25	shiakmobin2002@gmail.com	Shaikmobin
26	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar
27	ravuakshaya@gmail.com	Ravu.akshaya
28	hemasanjushasanikommu828@gmail.com	hema sanjusha
29	ynagasasikumar@gmail.com	Y Naga Sasi Kumar
30	rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa
31	harikabangaram313@gmail.com	Harika
32	indupriya72216@gmail.com	Indu Priya Patcha
33	bhavyasrisajja2003@gmail.com	Bhavya sri
34	sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha
35	bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad
36	nikitharayapati9@gmail.com	Nikhitha Rayapati
37	indhupotla123@gmail.com	indhu priya
38	abdulabdul22070@gmail.com	Syed.Abdul Rehaman
39	jaffershaik718@gmail.com	Jaffer shaik
40	rabbanishaik7356@gmail.com	SHAIK RABBANI
41	reshmayalamanchi@gmail.com	Reshma yalamanchi
42	thiriveedhinagajyothi@gmail.com	T. Nagajyothi
43	paladugudurga1@gmail.com	P. Durga Sri
44	saidashaik371@gmail.com	SHAIK SAIDA ANWAR BASHA
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46	nrajasambasivarao@gmail.com	Narra Raja Samba Siva Rao
47	saisairam068@gmail.com	Sairam
48	sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha
49	bhuvanstarpuli@gmail.com	Puli bhuvaneswar
50	arundathi0508@gmail.com	PANDA UMA ARUNDATHI

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2	21KP1A4488	Rama Chandra Rao	Venkateswaramma
3	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi
4	22kp5a4402	B.lakshmaiah	B.veramma
5	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam
6	21KP1A4475	P.Madhava Reddy	P.Kavitha
7	21KP1A4481	POLEPALLI. GURUBRAHMA CHARI	POLEPALLI.SRIDEVI
8	21KP1A44A9	Syed Rahiman	Syed Naseema
9	21KP1A44B6	T.SAMBA SIVA RAO	T.ARUNA KUMARI
10	21KP1A44B0	Tamma krishna reddy	Tamma Padmavathi
11	21KP1A4480	PODILI RAMESH	PODILI ADILAKSHMI
12	21KP1A4496	SHAIK BAJI	SHAIK KHADRUN
13	21KP1A44C0	Veeraswamy.v	Lakshmi.v
14	21KP1A4477	Patcha apparao	Patcha sukanya
15	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani
16	21KP1A44C3	Srinivasa reddy	Jyothi
17	21KP1A44A3	Shaik Rahim babu	Shaik Raziya
18	21KP1A4492	S sk mastan vali	Mahabobba
19	21KP1A44C1	Vallu Srinivasa Rao	Vallu Surya kumari
20	21KP1A44B9	Undela Chinna Obula Reddy	Undela GuruLakshmi
21	21KP1A44A7	SYED.BAJI	SYED.SARTHAJ BEGUM
22	21KP1A44C7	Chinna anjayya	Lakshmi narayanama
23	21KP1A44A4	SURE.VISWANADHAM	SURE.SAI LAKSHMI
24	21KP1A44B5	T.vasu	T.jaya
25	21KP1A4497	shaik karimullah	Shaik rihana
26	21KP1A4493	Shaik.Kareem	Shaik.Farjana
27	21KP1A4485	Ravu.srinivasrao	Ravu.aruna kumari
28	21KP1A4491	musalareddy	sivaparvathi
29	21KP1A44D0	Y Rama mohanarao	Y Lalitha
30	21KP1A44A0	Shaik.mahaboobjani	Shaik.munni
31	22KP5A4401	A.Subramanyam	A.Dhana Bhagyam
32	21KP1A4476	Appa rao Patcha	Renuka Patcha
33	21KP1A4490	Mohan krishna	Usha rani
34	21KP1A44C4	Vejendla Srinivass Rao	Vejendla Laxmi Prasanna
35	21KP1A44B2	T sathyanarayana	T rama devi
36	21KP1A4487	Rayapati hanumathrao	Rayapati malleswari
37	21KP1A4483	Lakshmanarayana	Sujatha
38	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni
39	21KP1A4495	shaik.LaiLaha	shaik.Ramjan bee
40	21KP1A4499	SHAIK MOHAMMAD HANIF	SHAIK MALIN
41	21KP1A44C9	Yalamanchi subba Rao	Yalamanchi sunitha
42	21KP1A44B7	T. Venkayya	T. Ramanjamma
43	21KP1A4473	P. Amareswara rao	P. Seshu Kumari
44	21KP1A44A2	SHAIK KUDHAN VALI	SHAIK SAIDA HUSSANBI
45	21KP1A4489	Yedukondalu	Nirmala
46	21KP1A4471	Narra SrinivasaRao	Narra Ramadevi
47	21kp1a44b4	Venkata subbiah	Ravanamma
48	21KP1A4469	Nallabothu. Anjaneyulu	Nallabothu. Anitha

```
49  21KP1A4484       Puli mallikarjuna       Puli ramadevi
50  21KP1A4474       PANDA NARAYANA RAO   PANDA PRASANNA LAKSHMI
51  21KP1A44C6       Chinni Pratap Kumar       Chinni Bhargavi


  COURSE  CGPA  AGE                    BRANCH  \
0    DS   8.00  19              Data science
1    CSE  83.00  19                   CSE-DS
2    MECH  7.00  20                    mech
3    CSE  9.50  20                    CSE
4    DS   0.72  23              Computer science
5    DS   80.00  19                   CSD
6    DS   70.00  19                   CSD
7    DS   10.00  19              Data Science
8    MECH  8.00  19                    DS
9    DS   8.00  19               DATA SCIENCE
10   DS   7.70  19              CSE (Data science)
11   DS   7.50  19               DATA SCIENCE
12   DS   9.00  19                    ds
13   DS   0.98  20              Data Science
14   CSE  0.99  20              Data science
15   MECH  8.50  19                    19
16   DS   7.00  19              Data science
17   DS   80.00  20                    DS
18   DS   50.00  19                    DS
19   DS   73.00  20  Computer Science Engineering& Data Science
20   DS   9.20  20              Computer Science
21   DS   0.70  19                    DS
22   DS   75.00  19                   CSD
23   DS   10.00  20              Data science
24   DS   0.75  19              Data Science
25   DS   8.80  21                    Ds
26   ECE  8.00  20                    20
27   DS   80.00  19                    Ds
28   CSE  73.00  18h                   cse
29   DS   9.20  20                    20
30   DS   8.00  18              Data science
31   DS   75.00  19              Data science
32   DS   0.75  18              Data Science
33   DS   70.00  19                    Ds
34   CSE  70.00  19              Cse- Data Science
35   DS   9.60  19                    19
36   DS   80.00  19                    Ds
37   CSE  72.00  19                    cse
38   DS   90.00  20                    DS
39   CSE  70.00  19                    cse
40   DS   9.50  21                   CSD
41   DS   75.00  19                    DS
42   DS   75.00  19                    DS
43   DS   80.00  20              CSD(Data Science)
44   DS   80.00  20               DATASCIENCE
45   DS   7.00  20              Data science
46   DS   7.50  19              CSD (Data science)
```

```
47   CSE 10.00   19                          Da
48   DS  90.00   21                          CSD
49   DS   8.30   21                   Data science
50   DS  87.00   19                          CSD
51   DS  80.00   19                   Data Science


     SEMISTER      UIDAI NO
0      2-2   636336922883
1      II-II  602515258256
2       4    930319053088
3      2-3   576154990146
4      2-2   895444662410
5      2-2   724574588425
6      2.2   810177524502
7      2-2   721819168061
8      2-2   617020354793
9      2-2   338666948901
10     2-2   685349832128
11     2-2   458689741091
12     2-2   663048521599
13     2-2   510305345824
14     2-2   744020413963
15     2-2   559366114423
16     2-2   424973081348
17     2-2   529261464345
18     2-2   568753875709
19      4    ************
20     2-2   693621780842
21     2-2   764320730678
22     2-2   830785066037
23     2-2   776486062608
24     2-2   673112205183
25     2.2   904355656468
26     2-2   334708289154
27     2.2   544305783128
28     2-2   422314863763
29     2-2   448172496292
30     2-2   406976169351
31     2-2   574930568520
32     2-2   573041880949
33     2-2   274736890047
34     2_2   587480445790
35     2-2   357228202835
36     2-2   963360828294
37     2-2   524345891620
38     2-2   347853509974
39     2nd   912229276699
40     2-2   205933956204
41      4    742366316353
42      4    330477145525
43     2-2   692162661608
44     2-2   466722650274
```

```
45        2-2  2387 7088 9424
46          4   835457902826
47        2-2   746109575146
48        2-2   208611060176
49        2.2   950519207474
50        2-2   652650486629
51  4th semester   639534870436
```

df.CGPA=df.CGPA.astype(float)

df.info()

Output :

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 52 entries, 0 to 51
Data columns (total 11 columns):
 #  Column       Non-Null Count  Dtype
--- ------       --------------  -----
 0  Gmail        52 non-null    object
 1  STUDENT NAME 52 non-null    object
 2  ROLL NUMBER  52 non-null    object
 3  FATHER NAME  52 non-null    object
 4  MOTHER NAME  52 non-null    object
 5  COURSE       52 non-null    object
 6  CGPA         52 non-null    float64
 7  AGE          52 non-null    object
 8  BRANCH       52 non-null    object
 9  SEMISTER     52 non-null    object
 10 UIDAI NO     52 non-null    object
dtypes: float64(1), object(10)
memory usage: 4.6+ KB
```

df[(df['CGPA']>8.0)]

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.0	19	CSE-DS	II-II	602515258256
	sandeepyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.5	20	CSE	2-3	576154990146
	ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80.0	19	CSD	2-2	724574588425
	charithareddy3914@gmail.com	P.charitha reddy	21KP1A4475	P.Madhava Reddy	P.Kavitha	DS	70.0	19	CSD	2.2	810177524502
	gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI	21KP1A4481	POLEPALLI. GURUBRAHMA CHARI	POLEPALLI.SRIDEVI	DS	10.0	19	Data Science	2-2	721819168061
	shaikkarishma811@gmail.com	shaik karishma	21KP1A4496	SHAIK BAJI	SHAIK KHADRUN	DS	9.0	19	ds	2-2	663048521599
	manu952041@gmail.com	Pachipulusu Manohar	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani	MECH	8.5	19	19	2-2	559366114423
	shaiksakina05@gmail.com	Shaik sameer	21KP1A44A3	Shaik Rahim babu	Shaik Raziya	DS	80.0	20	DS	2-2	529261464345
	us465249@gmail.com	S.sk usman	21KP1A4492	S.sk mastan vali	Mahabobha	DS	50.0	19	DS	2-2	568753875709

df.nlargest(10,["CGPA"])

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
38	abdulabdul22070@gmail.com	Syed.Abdul Rehaman	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni	DS	90.0	20	DS	2-2	347853509974
48	sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha	21KP1A4469	Nallabothu. Anjaneyulu	Nallabothu. Anitha	DS	90.0	21	CSD	2-2	208611060176
50	arundathi0508@gmail.com	PANDA UMA ARUNDATHI	21KP1A4474	PANDA NARAYANA RAO	PANDA PRASANNA LAKSHMI	DS	87.0	19	CSD	2-2	652650486629
1	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.0	19	CSE-DS	II-II	602515258256
5	ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80.0	19	CSD	2-2	724574588425
17	shaiksakina05@gmail.com	Shaik sameer	21KP1A44A3	Shaik Rahim babu	Shaik Raziya	DS	80.0	20	DS	2-2	529261464345
27	ravuakshaya@gmail.com	Ravu.akshaya	21KP1A4485	Ravu.srinivasrao	Ravu.aruna kumari	DS	80.0	19	Ds	2.2	544305783128
36	nikitharayapati9@gmail.com	Nikhitha Rayapati	21KP1A4487	Rayapati hanumathrao	Rayapati malleswari	DS	80.0	19	Ds	2-2	963360828294
43	paladugudurga1@gmail.com	P. Durga Sri	21KP1A4473	P. Amareswara rao	P. Seshu Kumari	DS	80.0	20	CSD(Data Science)	2-2	692162661608
44	saidashaik371@gmail.com	SHAIK SAIDA ANWAR BASHA	21KP1A44A2	SHAIK KUDHAN VALI	SHAIK SAIDA HUSSANBI	DS	80.0	20	DATASCIENCE	2-2	466722650274

df.nsmallest(10,['CGPA'])

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
21	farukh.786syed@gmail.com	SYED.FARUKH	21KP1A44A7	SYED.BAJI	SYED.SARTHAJ BEGUM	DS	0.70	19	DS	2-2	764320730678
4	sivajibejjanki@gmail.com	B.sivaji	22kp5a4402	B.lakshmaiah	B.veramma	DS	0.72	23	Computer science	2-2	895444662410
24	thammisettysrikanthraj9@gmail.com	T.Srikanth	21KP1A44B5	T.vasu	T.jaya	DS	0.75	19	Data Science	2-2	673112205183
32	indupriya72216@gmail.com	Indu Priya Patcha	21KP1A4476	Appa rao Patcha	Renuka Patcha	DS	0.75	18	Data Science	2-2	573041880949
13	kumarvalaparla890@gmail.com	Venkata Aravind Kumar.V	21KP1A44C0	Veeraswamy.v	Lakshmi.v	DS	0.98	20	Data Science	2-2	510305345824
14	patchachinnu3@gmail.com	Patcha Jaswanth	21KP1A4477	Patcha apparao	Patcha sukanya	CSE	0.99	20	Data science	2-2	744020413963
2	sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7.00	20	mech	4	930319053088

Grouping the data based on specific attribute-

```
df1=df.groupby('COURSE').get_group('DS').sort_values('COURSE',ascending=True)
df1
```

Output:

Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	
vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	8.00	19	Data science	2-2	636
rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa	21KP1A44A0	Shaik.mahaboobjani	Shaik.munni	DS	8.00	18	Data science	2-2	406
harikabangaram313@gmail.com	Harika	22KP5A4401	A.Subramanyam	A.Dhana Bhagyam	DS	75.00	19	Data science	2-2	574
indupriya72216@gmail.com	Indu Priya Patcha	21KP1A4476	Appa rao Patcha	Renuka Patcha	DS	0.75	18	Data Science	2-2	573
bhavyasrisajja2003@gmail.com	Bhavya sri	21KP1A4490	Mohan krishna	Usha rani	DS	70.00	19	Ds	2-2	274
bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad	21KP1A44B2	T sathyanarayana	T rama devi	DS	9.60	19	19	2-2	357
nikitharayapati9@gmail.com	Nikhitha Rayapati	21KP1A4487	Rayapati hanumathrao	Rayapati malleswari	DS	80.00	19	Ds	2-2	963
abdulabdul22070@gmail.com	Syed.Abdul Rehaman	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni	DS	90.00	20	DS	2-2	347
ynagasasikumar@gmail.com	Y Naga Sasi Kumar	21KP1A44D0	Y Rama mohanarao	Y Lalitha	DS	9.20	20	20	2-2	448
rabbanishaik7356@gmail.com	SHAIK RABBANI	21KP1A4499	SHAIK MOHAMMAD HANIF	SHAIK MALIN	DS	9.50	21	CSD	2-2	205
thiriveedhinagajyothi@gmail.com	T. Nagajyothi	21KP1A44B7	T. Venkayya	T. Ramanjamma	DS	75.00	19	DS	4	330
paladugudurga1@gmail.com	P. Durga Sri	21KP1A4473	P. Amareswara rao	P. Seshu Kumari	DS	80.00	20	CSD(Data Science)	2-2	692
saidashaik371@gmail.com	SHAIK SAIDA ANWAR BASHA	21KP1A44A2	SHAIK KUDHAN VALI	SHAIK SAIDA HUSSANBI	DS	80.00	20	DATASCIENCE	2-2	466
mvkbn1312@gmail.com	R.M.V.K.Brahma Naidu	21KP1A4489	Yedukondalu	Nirmala	DS	7.00	20	Data science	2-2	
nrajasambasivarao@gmail.com	Narra Raja Samba Siva Rao	21KP1A4471	Narra SrinivasaRao	Narra Ramadevi	DS	7.50	19	CSD (Data science)	4	835
sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha	21KP1A4469	Nallabothu. Anjaneyulu	Nallabothu. Anitha	DS	90.00	21	CSD	2-2	208

23

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
reshmayalamanchi@gmail.com	Reshma yalamanchi	21KP1A44C9	Yalamanchi subba Rao	Yalamanchi sunitha	DS	75.00	19	DS	4	74	
ravuakshaya@gmail.com	Ravu.akshaya	21KP1A4485	Ravu.srinivasrao	Ravu.aruna kumari	DS	80.00	19	Ds	2.2	54	
shiakmobin2002@gmail.com	Shaikmobin	21KP1A4497	shaik karimullah	Shaik rihana	DS	8.80	21	Ds	2.2	90	
hammisettysrikanthraj9@gmail.com	T.Srikanth	21KP1A44B5	T.vasu	T.jaya	DS	0.75	19	Data Science	2-2	67	
sivajibejjanki@gmail.com	B.sivaji	22kp5a4402	B.lakshmaiah	B.veramma	DS	0.72	23	Computer science	2-2	89	
ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80.00	19	CSD	2.2	72	
charithareddy3914@gmail.com	P.charitha reddy	21KP1A4475	P.Madhava Reddy	P.Kavitha	DS	70.00	19	CSD	2.2	81	
gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI	21KP1A4481	POLEPALLI. GURUBRAHMA CHARI	POLEPALLI.SRIDEVI	DS	10.00	19	Data Science	2-2	72	
sowjanyathota11@gmail.com	T.SOWJANYA	21KP1A44B6	T.SAMBA SIVA RAO	T.ARUNA KUMARI	DS	8.00	19	DATA SCIENCE	2-2	33	
tammasahithi1@gmail.com	Tamma Sahithi	21KP1A44B0	Tamma krishna reddy	Tamma Padmavathi	DS	7.70	19	CSE (Data science)	2-2	68	
podilisarayu6@gmail.com	PODILI LAKSHMISARAYU	21KP1A4480	PODILI RAMESH	PODILI ADILAKSHMI	DS	7.50	19	DATA SCIENCE	2-2	45	
shaikkarishma811@gmail.com	shaik karishma	21KP1A4496	SHAIK BAJI	SHAIK KHADRUN	DS	9.00	19	ds	2-2	66	
kumarvalaparla890@gmail.com	Venkata Aravind Kumar.V	21KP1A44C0	Veeraswamy.v	Lakshmi.v	DS	0.98	20	Data Science	2-2	51	
vanukuri.raghava@gmail.com	Raghava	21KP1A44C3	Srinivasa reddy	Jyothi	DS	7.00	19	Data science	2-2	42	
shaiksakina05@gmail.com	Shaik sameer	21KP1A44A3	Shaik Rahim babu	Shaik Raziya	DS	80.00	20	DS	2-2	52	
us465249@gmail.com	S sk usman	21KP1A4492	S sk mastan vali	Mahabobba	DS	50.00	19	DS	2-2	56	
vallu.srinu756939@gmail.com	Vallu Srinu Siva Subrahmanyam	21KP1A44C1	Vallu Srinivasa Rao	Vallu Surya kumari	DS	73.00	20	Computer Science Engineering& Data Science	4		
lelachandraobulareddy@gmail.com	Undela Chandra Obula Reddy	21KP1A44B9	Undela Chinna Obula Reddy	Undela GuruLakshmi	DS	9.20	20	Computer Science	2-2	69	
farukh.786syed@gmail.com	SYED.FARUKH	21KP1A44A7	SYED.BAJI	SYED.SARTHAJ BEGUM	DS	0.70	19	DS	2-2	76	

Grouping the course attributes:

```
df.groupby('COURSE').get_group('DS').sort_values('COURSE')

y=df.groupby('COURSE')

y.first()
```

Output:

COURSE	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
CSE	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	83.0	19	CSE-DS	II-II	602515258256
DS	vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	8.0	19	Data science	2-2	636336922883
ECE	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar	21KP1A4493	Shaik.Kareem	Shaik.Farjana	8.0	20	20	2-2	334708289154
MECH	sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	7.0	20	mech	4	930319053088

Replacing the values-

```
df.replace(['18h'],18,inplace=True)

print(df)
```

	Gmail	STUDENT NAME \
0	vennachandana1@gmail.com	Venna Chandana
1	adilakshmi4765@gmail.com	N.Venkatesh
2	sravankumar7156@gmail.com	Sravan Kumar
3	sandeepyeruva1124@gmail.com	Yeruva sandeep reddy
4	sivajibejjanki@gmail.com	B.sivaji
5	ramyayalabolu123r@gmail.com	Y.Ramya
6	charithareddy3914@gmail.com	P.charitha reddy
7	gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI
8	syedtasleem07@gmail.com	Syed Tasleem Afroze
9	sowjanyathota11@gmail.com	T.SOWJANYA
10	tammasahithi1@gmail.com	Tamma Sahithi
11	podilisarayu6@gmail.com	PODILI LAKSHMISARAYU
12	shaikkarishma811@gmail.com	shaik karishma
13	kumarvalaparla890@gmail.com	Venkata Aravind Kumar.V
14	patchachinnu3@gmail.com	Patcha Jaswanth
15	manu952041@gmail.com	Pachipulusu Manohar
16	vanukuri.raghava@gmail.com	Raghava
17	shaiksakina05@gmail.com	Shaik sameer
18	us465249@gmail.com	S sk usman
19	vallu.srinu756939@gmail.com	Vallu Srinu Siva Subrahmanyam
20	undelachandraobulareddy@gmail.com	Undela Chandra Obula Reddy
21	farukh.786syed@gmail.com	SYED.FARUKH
22	anushayalabolu12@gmail.com	Anusha yalabolu
23	madhulathasure9@gmail.com	SURE. MADHULATHA
24	thammisettysrikanthraj9@gmail.com	T.Srikanth
25	shiakmobin2002@gmail.com	Shaikmobin
26	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar
27	ravuakshaya@gmail.com	Ravu.akshaya
28	hemasanjushasanikommu828@gmail.com	hema sanjusha
29	ynagasasikumar@gmail.com	Y Naga Sasi Kumar
30	rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa
31	harikabangaram313@gmail.com	Harika
32	indupriya72216@gmail.com	Indu Priya Patcha
33	bhavyasrisajja2003@gmail.com	Bhavya sri
34	sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha
35	bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad
36	nikitharayapati9@gmail.com	Nikhitha Rayapati
37	indhupotla123@gmail.com	indhu priya
38	abdulabdul22070@gmail.com	Syed.Abdul Rehaman
39	jaffershaik718@gmail.com	Jaffer shaik
40	rabbanishaik7356@gmail.com	SHAIK RABBANI
41	reshmayalamanchi@gmail.com	Reshma yalamanchi
42	thiriveedhinagajyothi@gmail.com	T. Nagajyothi
43	paladugudurga1@gmail.com	P. Durga Sri
44	saidashaik371@gmail.com	SHAIK SAIDA ANWAR BASHA
45	mvkbn1312@gmail.com	R.M.V.K.Brahma Naidu
46	nrajasambasivarao@gmail.com	Narra Raja Samba Siva Rao
47	saisairam068@gmail.com	Sairam

```
48      sriharshanallabothu@gmail.com          Nallabothu. Sri Harsha
49      bhuvanstarpuli@gmail.com               Puli bhuvaneswar
50      arundathi0508@gmail.com                PANDA UMA ARUNDATHI
51      chinnivignesh144@gmail.com     chinni vignesh teja yadav


   ROLL NUMBER              FATHER NAME              MOTHER NAME   \
0   21KP1A44C5      Venna Ramanareddy       Venna Lakshmidevi
1   21KP1A4468       N.Manikya Rao          N.Sri Lakshmi
2   21KP1A4488       Rama Chandra Rao       Venkateswaramma
3   21KP1A44D1    Yeruva Ajay Kumar reddy      Yeruva Anjali Devi
4   22kp5a4402       B.lakshmaiah           B.veramma
5   21KP1A44C8         Y.Anjaiah      Y Lakshmi Rajyam
6   21KP1A4475       P.Madhava Reddy          P.Kavitha
7   21KP1A4481 POLEPALLI. GURUBRAHMA CHARI        POLEPALLI.SRIDEVI
8   21KP1A44A9        Syed Rahiman          Syed Naseema
9   21KP1A44B6       T.SAMBA SIVA RAO         T.ARUNA KUMARI
10  21KP1A44B0      Tamma krishna reddy       Tamma Padmavathi
11  21KP1A4480        PODILI RAMESH         PODILI ADILAKSHMI
12  21KP1A4496        SHAIK BAJI        SHAIK  KHADRUN
13 21KP1A44C0        Veeraswamy.v           Lakshmi.v
14  21KP1A4477       Patcha apparao         Patcha sukanya
15  21KP1A4472      Pachipulusu Prasad      Pachipulusu Bhavani
16  21KP1A44C3       Srinivasa reddy           Jyothi
17  21KP1A44A3       Shaik Rahim babu         Shaik Raziya
18  21KP1A4492       S sk mastan vali          Mahabobba
19 21KP1A44C1       Vallu Srinivasa Rao      Vallu Surya kumari
20  21KP1A44B9   Undela Chinna Obula Reddy        Undela GuruLakshmi
21  21KP1A44A7         SYED.BAJI       SYED.SARTHAJ BEGUM
22  21KP1A44C7       Chinna anjayya      Lakshmi narayanama
23  21KP1A44A4        SURE.VISWANADHAM          SURE.SAI LAKSHMI
24  21KP1A44B5          T.vasu           T.jaya
25 21KP1A4497       shaik karimullah         Shaik rihana
26  21KP1A4493        Shaik.Kareem           Shaik.Farjana
27  21KP1A4485       Ravu.srinivasrao      Ravu.aruna kumari
28  21KP1A4491         musalareddy          sivaparvathi
29  21KP1A44D0       Y Rama mohanarao           Y Lalitha
30  21KP1A44A0      Shaik.mahaboobjani         Shaik.munni
31  22KP5A4401        A.Subramanyam         A.Dhana Bhagyam
32  21KP1A4476       Appa rao Patcha        Renuka Patcha
33  21KP1A4490        Mohan krishna          Usha rani
34  21KP1A44C4      Vejendla Srinivass Rao  Vejendla Laxmi Prasanna
35  21KP1A44B2       T sathyanarayana        T rama devi
36  21KP1A4487       Rayapati hanumathrao      Rayapati malleswari
37  21KP1A4483       Lakshmanarayana          Sujatha
38 21KP1A44A6       Syed.Meera Sharif       Bandi.Krishna veni
39  21KP1A4495       shaik.LaiLaha        shaik.Ramjan bee
40  21KP1A4499     SHAIK MOHAMMAD HANIF          SHAIK MALIN
41  21KP1A44C9      Yalamanchi  subba Rao      Yalamanchi sunitha
42  21KP1A44B7         T. Venkayya        T. Ramanjamma
43  21KP1A4473       P. Amareswara rao       P. Seshu Kumari
44  21KP1A44A2        SHAIK KUDHAN VALI      SHAIK SAIDA HUSSANBI
45  21KP1A4489         Yedukondalu            Nirmala
```

```
46  21KP1A4471        Narra SrinivasaRao       Narra Ramadevi
47  21kp1a44b4        Venkata subbiah            Ravanamma
48  21KP1A4469    Nallabothu. Anjaneyulu    Nallabothu. Anitha
49  21KP1A4484        Puli mallikarjuna        Puli ramadevi
50  21KP1A4474        PANDA NARAYANA RAO   PANDA PRASANNA LAKSHMI
51  21KP1A44C6      Chinni Pratap Kumar       Chinni Bhargavi


  COURSE  CGPA  AGE                        BRANCH \
0    DS    8.00  19               Data science
1    CSE  83.00  19                  CSE-DS
2    MECH  7.00  20                    mech
3    CSE   9.50  20                    CSE
4    DS    0.72  23            Computer science
5    DS   80.00  19                    CSD
6    DS   70.00  19                    CSD
7    DS   10.00  19               Data Science
8    MECH  8.00  19                     DS
9    DS    8.00  19              DATA SCIENCE
10   DS    7.70  19          CSE (Data science)
11   DS    7.50  19              DATA SCIENCE
12   DS    9.00  19                     ds
13   DS    0.98  20              Data Science
14   CSE   0.99  20              Data science
15   MECH  8.50  19                     19
16   DS    7.00  19              Data science
17   DS   80.00  20                     DS
18   DS   50.00  19                     DS
19   DS   73.00  20   Computer Science Engineering& Data Science
20   DS    9.20  20              Computer Science
21   DS    0.70  19                     DS
22   DS   75.00  19                    CSD
23   DS   10.00  20              Data science
24   DS    0.75  19              Data Science
25   DS    8.80  21                     Ds
26   ECE   8.00  20                     20
27   DS   80.00  19                     Ds
28   CSE  73.00  18                    cse
29   DS    9.20  20                     20
30   DS    8.00  18              Data science
31   DS   75.00  19              Data science
32   DS    0.75  18              Data Science
33   DS   70.00  19                     Ds
34   CSE  70.00  19             Cse- Data Science
35   DS    9.60  19                     19
36   DS   80.00  19                     Ds
37   CSE  72.00  19                    cse
38   DS   90.00  20                     DS
39   CSE  70.00  19                    cse
40   DS    9.50  21                    CSD
41   DS   75.00  19                     DS
42   DS   75.00  19                     DS
43   DS   80.00  20             CSD (Data Science)
```

44	DS	80.00	20	DATASCIENCE
45	DS	7.00	20	Data science
46	DS	7.50	19	CSD (Data science)
47	CSE	10.00	19	Da
48	DS	90.00	21	CSD
49	DS	8.30	21	Data science
50	DS	87.00	19	CSD
51	DS	80.00	19	Data Science

	SEMISTER	UIDAI NO
0	2-2	636336922883
1	II-II	602515258256
2	4	930319053088
3	2-3	576154990146
4	2-2	895444662410
5	2-2	724574588425
6	2.2	810177524502
7	2-2	721819168061
8	2-2	617020354793
9	2-2	338666948901
10	2-2	685349832128
11	2-2	458689741091
12	2-2	663048521599
13	2-2	510305345824
14	2-2	744020413963
15	2-2	559366114423
16	2-2	424973081348
17	2-2	529261464345
18	2-2	568753875709
19	4	************
20	2-2	693621780842
21	2-2	764320730678
22	2-2	830785066037
23	2-2	776486062608
24	2-2	673112205183
25	2.2	904355656468
26	2-2	334708289154
27	2.2	544305783128
28	2-2	422314863763
29	2-2	448172496292
30	2-2	406976169351
31	2-2	574930568520
32	2-2	573041880949
33	2-2	274736890047
34	2_2	587480445790
35	2-2	357228202835
36	2-2	963360828294
37	2-2	524345891620
38	2-2	347853509974
39	2nd	912229276699
40	2-2	205933956204
41	4	742366316353

```
42        4  330477145525
43      2-2   692162661608
44   2-2    466722650274
45   2-2  2387 7088 9424
46        4   835457902826
47   2-2   746109575146
48   2-2   208611060176
49   2.2   950519207474
50   2-2   652650486629
51  4th semester   639534870436
```

```
df2=df.groupby('COURSE').get_group('CSE').sort_values('COURSE',ascending=True)
df2
```

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
1	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.00	19	CSE-DS	II-II	602515258256
3	sandeepyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.50	20	CSE	2-3	576154990146
14	patchachinnu3@gmail.com	Patcha Jaswanth	21KP1A4477	Patcha apparao	Patcha sukanya	CSE	0.99	20	Data science	2-2	744020413963
28	hemasanjushasanikommu828@gmail.com	hema sanjusha	21KP1A4491	musalareddy	sivaparvathi	CSE	73.00	18	cse	2-2	422314863763
34	sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha	21KP1A44C4	Vejendla Srinivass Rao	Vejendla Laxmi Prasanna	CSE	70.00	19	Cse-Data Science	2_2	587480445790
37	indhupotla123@gmail.com	indhu priya	21KP1A4483	Lakshmanarayana	Sujatha	CSE	72.00	19	cse	2-2	524345891620
39	jaffershaik718@gmail.com	Jaffer shaik	21KP1A4495	shaik.LaiLaha	shaik.Ramjan bee	CSE	70.00	19	cse	2nd	912229276699
47	saisairam068@gmail.com	Sairam	21kp1a44b4	Venkata subbiah	Ravanamma	CSE	10.00	19	Da	2-2	746109575146

```
df3=df.groupby('COURSE').get_group('ECE').sort_values('COURSE',ascending=True)
df3
```

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
26	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar	21KP1A4493	Shaik.Kareem	Shaik.Farjana	ECE	8.0	20	20	2-2	334708289154

```
df4=df.groupby('COURSE').get_group('MECH').sort_values('COURSE',ascending=True)
df4
```

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
2	sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7.0	20	mech	4	930319053088
8	syedtasleem07@gmail.com	Syed Tasleem Afroze	21KP1A44A9	Syed Rahiman	Syed Naseema	MECH	8.0	19	DS	2-2	617020354793
15	manu952041@gmail.com	Pachipulusu Manohar	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani	MECH	8.5	19	19	2-2	559366114423

```
df.AGE=df.AGE.astype(int)
```

Grouping the students based on AGE-

```
df5=df.groupby('AGE').get_group(18)
df5
```
Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI N
28	hemasanjushasanikommu828@gmail.com	hema sanjusha	21KP1A4491	musalareddy	sivaparvathi	CSE	73.00	18	cse	2-2	42231486376
30	rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa	21KP1A44A0	Shaik.mahaboobjani	Shaik.munni	DS	8.00	18	Data science	2-2	40697616935
32	indupriya72216@gmail.com	Indu Priya Patcha	21KP1A4476	Appa rao Patcha	Renuka Patcha	DS	0.75	18	Data Science	2-2	57304188094

```
d6=df.groupby('AGE').get_group(19)
d6
```
Output:

Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	8.00	19	Data science	2-2	636336922883
adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.00	19	CSE-DS	II-II	602515258256
ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80.00	19	CSD	2-2	724574588425
charithareddy3914@gmail.com	P.charitha reddy	21KP1A4475	P.Madhava Reddy	P.Kavitha	DS	70.00	19	CSD	2.2	810177524502
gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI	21KP1A4481	POLEPALLI. GURUBRAHMA CHARI	POLEPALLI.SRIDEVI	DS	10.00	19	Data Science	2-2	721819168061
syedtasleem07@gmail.com	Syed Tasleem Afroze	21KP1A44A9	Syed Rahiman	Syed Naseema	MECH	8.00	19	DS	2-2	617020354793
sowjanyathota11@gmail.com	T.SOWJANYA	21KP1A44B6	T.SAMBA SIVA RAO	T.ARUNA KUMARI	DS	8.00	19	DATA SCIENCE	2-2	338666948901
tammasahithi1@gmail.com	Tamma Sahithi	21KP1A44B0	Tamma krishna reddy	Tamma Padmavathi	DS	7.70	19	CSE (Data science)	2-2	685349832128
podilisarayu6@gmail.com	PODILI LAKSHMISARAYU	21KP1A4480	PODILI RAMESH	PODILI ADILAKSHMI	DS	7.50	19	DATA SCIENCE	2-2	458689741091
shaikkarishma811@gmail.com	shaik karishma	21KP1A4496	SHAIK BAJI	SHAIK KHADRUN	DS	9.00	19	ds	2-2	663048521599
manu952041@gmail.com	Pachipulusu Manohar	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani	MECH	8.50	19	19	2-2	559366114423
vanukuri.raghava@gmail.com	Raghava	21KP1A44C3	Srinivasa reddy	Jyothi	DS	7.00	19	Data science	2-2	424973081348
us465249@gmail.com	S sk usman	21KP1A4492	S sk mastan vali	Mahabobba	DS	50.00	19	DS	2-2	568753875709
farukh.786syed@gmail.com	SYED.FARUKH	21KP1A44A7	SYED.BAJI	SYED.SARTHAJ BEGUM	DS	0.70	19	DS	2-2	764320730678
anushayalabolu12@gmail.com	Anusha yalabolu	21KP1A44C7	Chinna anjayya	Lakshmi narayanama	DS	75.00	19	CSD	2-2	830785066037
mmisettysrikanthraj9@gmail.com	T.Srikanth	21KP1A44B5	T.vasu	T.jaya	DS	0.75	19	Data Science	2-2	673112205183

ravuakshaya@gmail.com	Ravu.akshaya	21KP1A4485	Ravu.srinivasrao	Ravu.aruna kumari	DS	80.00	19	Ds	2.2	5443057831
harikabangaram313@gmail.com	Harika	22KP5A4401	A.Subramanyam	A.Dhana Bhagyam	DS	75.00	19	Data science	2-2	5749305685
bhavyasrisajja2003@gmail.com	Bhavya sri	21KP1A4490	Mohan krishna	Usha rani	DS	70.00	19	Ds	2-2	2747368900
sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha	21KP1A44C4	Vejendla Srinivass Rao	Vejendla Laxmi Prasanna	CSE	70.00	19	Cse-Data Science	2_2	5874804457
bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad	21KP1A44B2	T sathyanarayana	T rama devi	DS	9.60	19	19	2-2	3572282028
nikitharayapati9@gmail.com	Nikhitha Rayapati	21KP1A4487	Rayapati hanumathrao	Rayapati malleswari	DS	80.00	19	Ds	2-2	9633608282
indhupotla123@gmail.com	indhu priya	21KP1A4483	Lakshmanarayana	Sujatha	CSE	72.00	19	cse	2-2	5243458916
jaffershaik718@gmail.com	Jaffer shaik	21KP1A4495	shaik.LaiLaha	shaik.Ramjan bee	CSE	70.00	19	cse	2nd	9122292766
reshmayalamanchi@gmail.com	Reshma yalamanchi	21KP1A44C9	Yalamanchi subba Rao	Yalamanchi sunitha	DS	75.00	19	DS	4	7423663163
thiriveedhinagajyothi@gmail.com	T. Nagajyothi	21KP1A44B7	T. Venkayya	T. Ramanjamma	DS	75.00	19	DS	4	3304771455
nrajasambasivarao@gmail.com	Narra Raja Samba Siva Rao	21KP1A4471	Narra SrinivasaRao	Narra Ramadevi	DS	7.50	19	CSD (Data science)	4	8354579028
saisairam068@gmail.com	Sairam	21kp1a44b4	Venkata subbiah	Ravanamma	CSE	10.00	19	Da	2-2	7461095751
arundathi0508@gmail.com	PANDA UMA ARUNDATHI	21KP1A4474	PANDA NARAYANA RAO	PANDA PRASANNA LAKSHMI	DS	87.00	19	CSD	2-2	6526504866
chinnivignesh144@gmail.com	chinni vignesh teja yadav	21KP1A44C6	Chinni Pratap Kumar	Chinni Bhargavi	DS	80.00	19	Data Science	4th semester	6395348704

```
d7=df.groupby('AGE').get_group(20)
d7
```
Output:

Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
ankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7.00	20	mech	4	930319053088
epyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.50	20	CSE	2-3	576154990146
rvalaparla890@gmail.com	Venkata Aravind Kumar.V	21KP1A44C0	Veeraswamy.v	Lakshmi.v	DS	0.98	20	Data Science	2-2	510305345824
patchachinnu3@gmail.com	Patcha Jaswanth	21KP1A4477	Patcha apparao	Patcha sukanya	CSE	0.99	20	Data science	2-2	744020413963
shaiksakina05@gmail.com	Shaik sameer	21KP1A44A3	Shaik Rahim babu	Shaik Raziya	DS	80.00	20	DS	2-2	529261464345
u.srinu756939@gmail.com	Vallu Srinu Siva Subrahmanyam	21KP1A44C1	Vallu Srinivasa Rao	Vallu Surya kumari	DS	73.00	20	Computer Science Engineering& Data Science	4	************
draobulareddy@gmail.com	Undela Chandra Obula Reddy	21KP1A44B9	Undela Chinna Obula Reddy	Undela GuruLakshmi	DS	9.20	20	Computer Science	2-2	693621780842
dhulathasure9@gmail.com	SURE. MADHULATHA	21KP1A44A4	SURE.VISWANADHAM	SURE.SAI LAKSHMI	DS	10.00	20	Data science	2-2	776486062608
ulkhadar6842@gmail.com	Shaik.Abdul Khadar	21KP1A4493	Shaik.Kareem	Shaik.Farjana	ECE	8.00	20	20	2-2	334708289154
agasasikumar@gmail.com	Y Naga Sasi Kumar	21KP1A44D0	Y Rama mohanarao	Y Lalitha	DS	9.20	20	20	2-2	448172496292
lulabdul22070@gmail.com	Syed.Abdul Rehaman	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni	DS	90.00	20	DS	2-2	347853509974
ladugudurga1@gmail.com	P. Durga Sri	21KP1A4473	P. Amareswara rao	P. Seshu Kumari	DS	80.00	20	CSD(Data Science)	2-2	692162661608
saidashaik371@gmail.com	SHAIK SAIDA ANWAR BASHA	21KP1A44A2	SHAIK KUDHAN VALI	SHAIK SAIDA HUSSANBI	DS	80.00	20	DATASCIENCE	2-2	466722650274
mvkbn1312@gmail.com	R.M.V.K.Brahma Naidu	21KP1A4489	Yedukondalu	Nirmala	DS	7.00	20	Data science	2-2	2387 7088 9424

```
d8=df.groupby('AGE').get_group(21)
d8
```
Output:

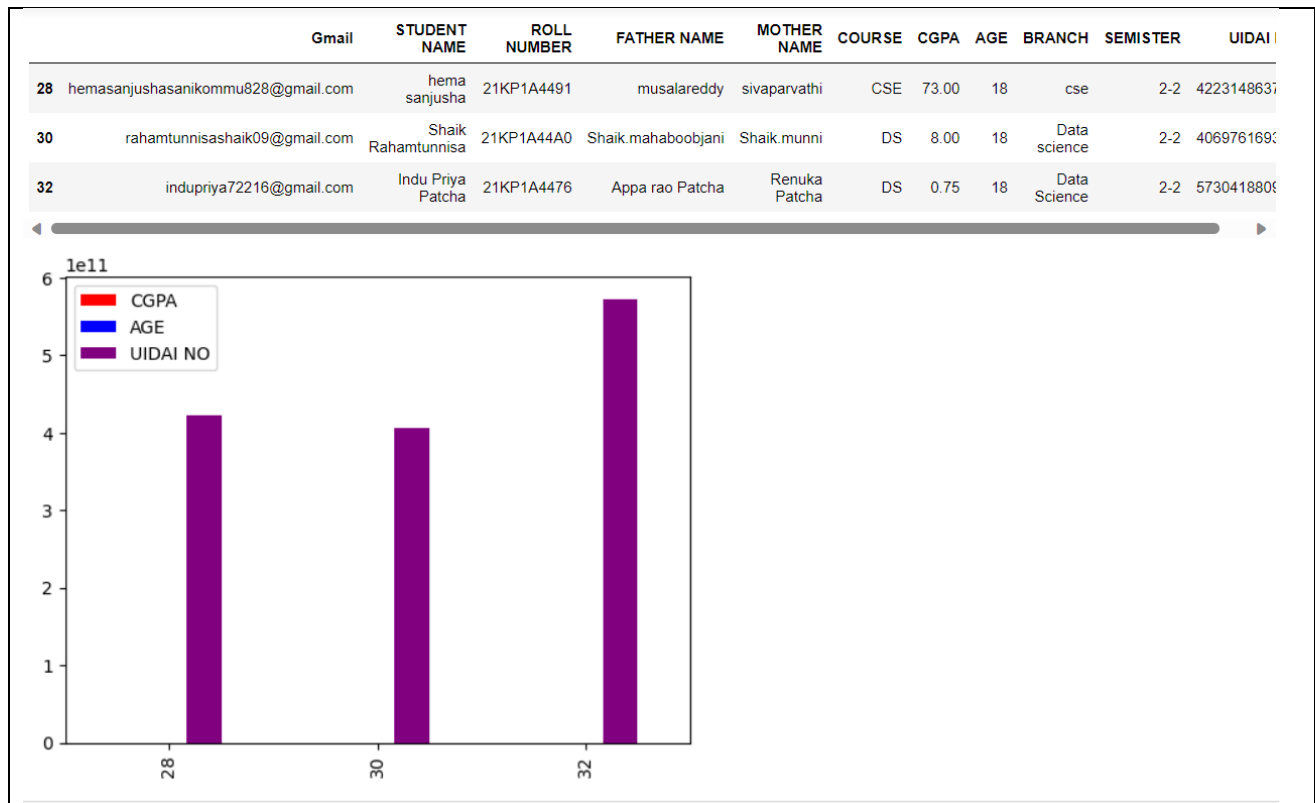|	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
25	shiakmobin2002@gmail.com	Shaikmobin	21KP1A4497	shaik karimullah	Shaik rihana	DS	8.8	21	Ds	2.2	904355656468
40	rabbanishaik7356@gmail.com	SHAIK RABBANI	21KP1A4499	SHAIK MOHAMMAD HANIF	SHAIK MALIN	DS	9.5	21	CSD	2-2	205933956204
48	sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha	21KP1A4469	Nallabothu. Anjaneyulu	Nallabothu. Anitha	DS	90.0	21	CSD	2-2	208611060176
49	bhuvanstarpuli@gmail.com	Puli bhuvaneswar	21KP1A4484	Puli mallikarjuna	Puli ramadevi	DS	8.3	21	Data science	2.2	950519207474

```
d9=df.groupby('AGE').get_group(23)
d9
```
Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
4	sivajibejjanki@gmail.com	B.sivaji	22kp5a4402	B.lakshmaiah	B.veramma	DS	0.72	23	Computer science	2-2	895444662410

Visualizing the data:

```
df5.plot.bar(color=['red','blue','purple'])
df5
```
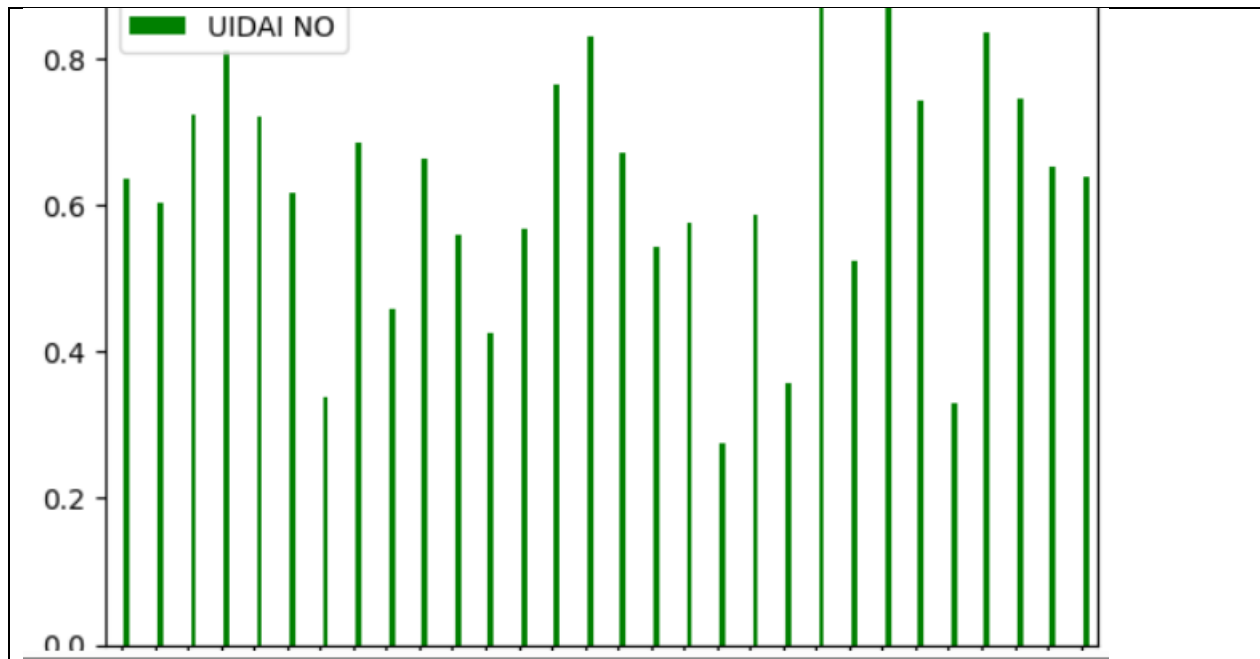Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI
28	hemasanjushasanikommu828@gmail.com	hema sanjusha	21KP1A4491	musalareddy	sivaparvathi	CSE	73.00	18	cse	2-2	4223148637
30	rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa	21KP1A44A0	Shaik.mahaboobjani	Shaik.munni	DS	8.00	18	Data science	2-2	4069761693
32	indupriya72216@gmail.com	Indu Priya Patcha	21KP1A4476	Appa rao Patcha	Renuka Patcha	DS	0.75	18	Data Science	2-2	5730418809

BAR plot-

```
d6.plot.bar(color=['red','blue','green'])
d6
```

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
0	vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	8.00	19	Data science	2-2	636336922883
1	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.00	19	CSE-DS	II-II	602515258256
5	ramyayalabolu123r@gmail.com	Y.Ramya	21KP1A44C8	Y.Anjaiah	Y Lakshmi Rajyam	DS	80.00	19	CSD	2-2	724574588425
6	charithareddy3914@gmail.com	P.charitha reddy	21KP1A4475	P.Madhava Reddy	P.Kavitha	DS	70.00	19	CSD	2.2	810177524502
7	gayathripolepalli70@gmail.com	POLEPALLI. GAYATHRI	21KP1A4481	POLEPALLI. GURUBRAHMA CHARI	POLEPALLI.SRIDEVI	DS	10.00	19	Data Science	2-2	721819168061
8	syedtasleem07@gmail.com	Syed Tasleem Afroze	21KP1A44A9	Syed Rahiman	Syed Naseema	MECH	8.00	19	DS	2-2	617020354793
9	sowjanyathota11@gmail.com	T.SOWJANYA	21KP1A44B6	T.SAMBA SIVA RAO	T.ARUNA KUMARI	DS	8.00	19	DATA SCIENCE	2-2	338666948901
10	tammasahithi1@gmail.com	Tamma Sahithi	21KP1A44B0	Tamma krishna	Tamma Padmavathi	DS	7.70	19	CSE (Data	2-2	685349832128

```
d7.plot.bar(color=['pink','purple','blue'])
d7
```
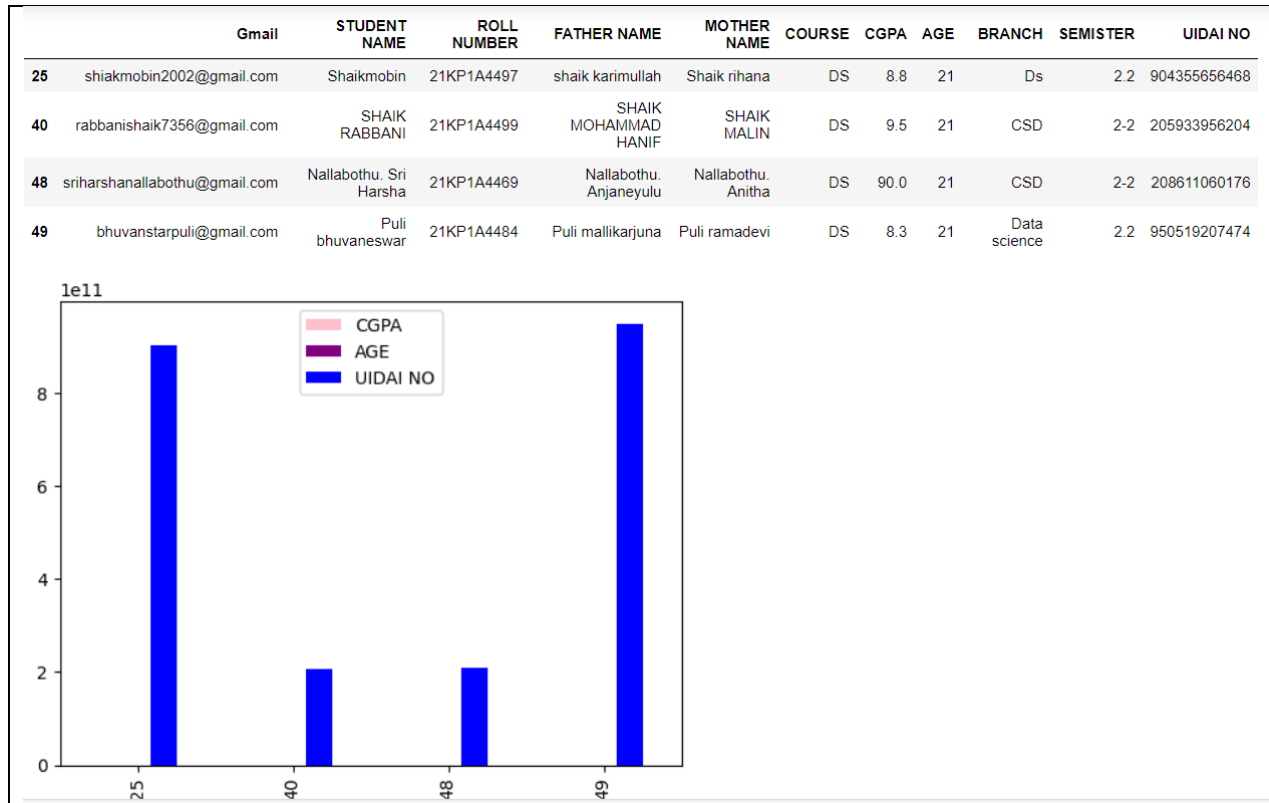
Output:

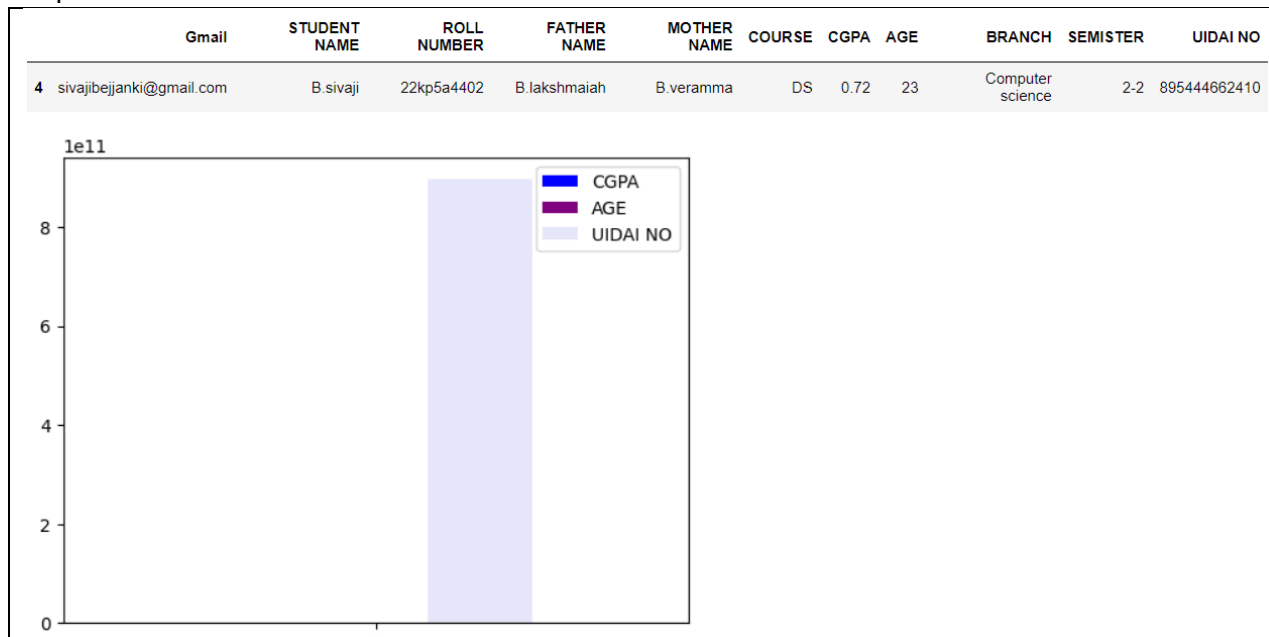| Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI
sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7.00	20	mech	4	930319053
andeepyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.50	20	CSE	2-3	576154990
umarvalaparla890@gmail.com	Venkata Aravind Kumar.V	21KP1A44C0	Veeraswamy.v	Lakshmi.v	DS	0.98	20	Data Science	2-2	510305345
patchachinnu3@gmail.com	Patcha Jaswanth	21KP1A4477	Patcha apparao	Patcha sukanya	CSE	0.99	20	Data science	2-2	744020413
shaiksakina05@gmail.com	Shaik sameer	21KP1A44A3	Shaik Rahim babu	Shaik Raziya	DS	80.00	20	DS	2-2	529261464
vallu.srinu756939@gmail.com	Vallu Srinu Siva Subrahmanyam	21KP1A44C1	Vallu Srinivasa Rao	Vallu Surya kumari	DS	73.00	20	Computer Science Engineering& Data Science	4	********
chandraobulareddy@gmail.com	Undela Chandra Obula Reddy	21KP1A44B9	Undela Chinna Obula Reddy	Undela GuruLakshmi	DS	9.20	20	Computer Science	2-2	693621780
madhulathasure9@gmail.com	SURE. MADHULATHA	21KP1A44A4	SURE.VISWANADHAM	SURE.SAI LAKSHMI	DS	10.00	20	Data science	2-2	776486062
abdulkhadar6842@gmail.com	Shaik.Abdul Khadar	21KP1A4493	Shaik.Kareem	Shaik.Farjana	ECE	8.00	20	20	2-2	334708289
ynagasasikumar@gmail.com	Y Naga Sasi Kumar	21KP1A44D0	Y Rama mohanarao	Y Lalitha	DS	9.20	20	20	2-2	448172496
abdulabdul22070@gmail.com	Syed.Abdul Rehaman	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni	DS	90.00	20	DS	2-2	347853509
paladugudurga1@gmail.com	P. Durga Sri	21KP1A4473	P. Amareswara rao	P. Seshu Kumari	DS	80.00	20	CSD(Data Science)	2-2	692162661
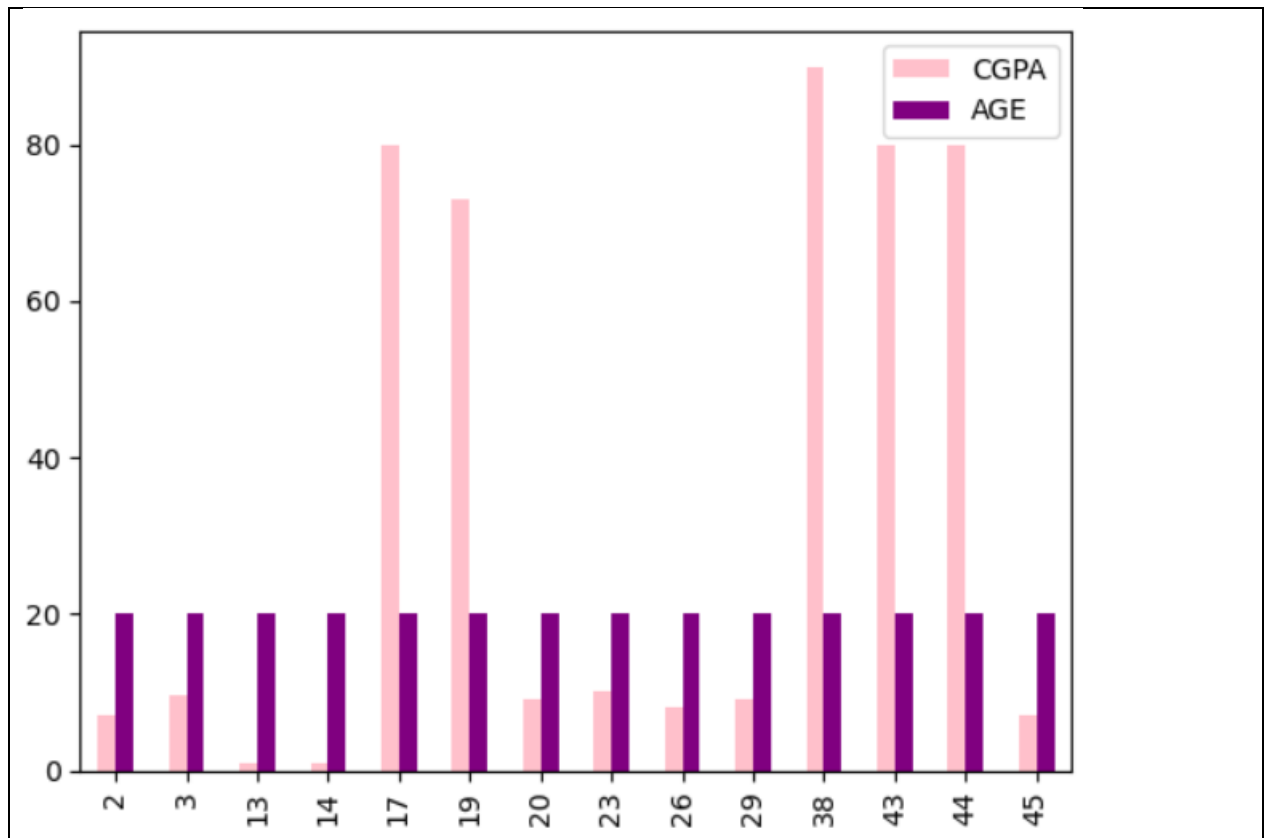
```
d8.plot.bar(color=['pink','purple','blue'])
d8
```
Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
25	shiakmobin2002@gmail.com	Shaikmobin	21KP1A4497	shaik karimullah	Shaik rihana	DS	8.8	21	Ds	2.2	904355656468
40	rabbanishaik7356@gmail.com	SHAIK RABBANI	21KP1A4499	SHAIK MOHAMMAD HANIF	SHAIK MALIN	DS	9.5	21	CSD	2-2	205933956204
48	sriharshanallabothu@gmail.com	Nallabothu. Sri Harsha	21KP1A4469	Nallabothu. Anjaneyulu	Nallabothu. Anitha	DS	90.0	21	CSD	2-2	208611060176
49	bhuvanstarpuli@gmail.com	Puli bhuvaneswar	21KP1A4484	Puli mallikarjuna	Puli ramadevi	DS	8.3	21	Data science	2.2	950519207474


```
d9.plot.bar(color=['blue','purple','lavender'])
d9
```

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
4	sivajibejjanki@gmail.com	B.sivaji	22kp5a4402	B.lakshmaiah	B.veramma	DS	0.72	23	Computer science	2-2	895444662410


```
df1.plot.bar(color=['blue','skyblue','pink'])
df1
```

Output:

Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
vennachandana1@gmail.com	Venna Chandana	21KP1A44C5	Venna Ramanareddy	Venna Lakshmidevi	DS	8.00	19	Data science	2-2	636336922883
rahamtunnisashaik09@gmail.com	Shaik Rahamtunnisa	21KP1A44A0	Shaik.mahaboobjani	Shaik.munni	DS	8.00	18	Data science	2-2	406976169351
harikabangaram313@gmail.com	Harika	22KP5A4401	A.Subramanyam	A.Dhana Bhagyam	DS	75.00	19	Data science	2-2	574930568520
indupriya72216@gmail.com	Indu Priya Patcha	21KP1A4476	Appa rao Patcha	Renuka Patcha	DS	0.75	18	Data Science	2-2	573041880949
bhavyasrisajja2003@gmail.com	Bhavya sri	21KP1A4490	Mohan krishna	Usha rani	DS	70.00	19	Ds	2-2	274736890047
bhanuthanirru@gmail.com	Thanirru Bhanu venkata prasad	21KP1A44B2	T sathyanarayana	T rama devi	DS	9.60	19	19	2-2	357228202835
nikitharayapati9@gmail.com	Nikhitha Rayapati	21KP1A4487	Rayapati hanumathrao	Rayapati malleswari	DS	80.00	19	Ds	2-2	963360828294
abdulabdul22070@gmail.com	Syed.Abdul Rehaman	21KP1A44A6	Syed.Meera Sharif	Bandi.Krishna veni	DS	90.00	20	DS	2-2	347853509974
ynagasasikumar@gmail.com	Y Naga Sasi Kumar	21KP1A44D0	Y Rama mohanarao	Y Lalitha	DS	9.20	20	20	2-2	448172496292
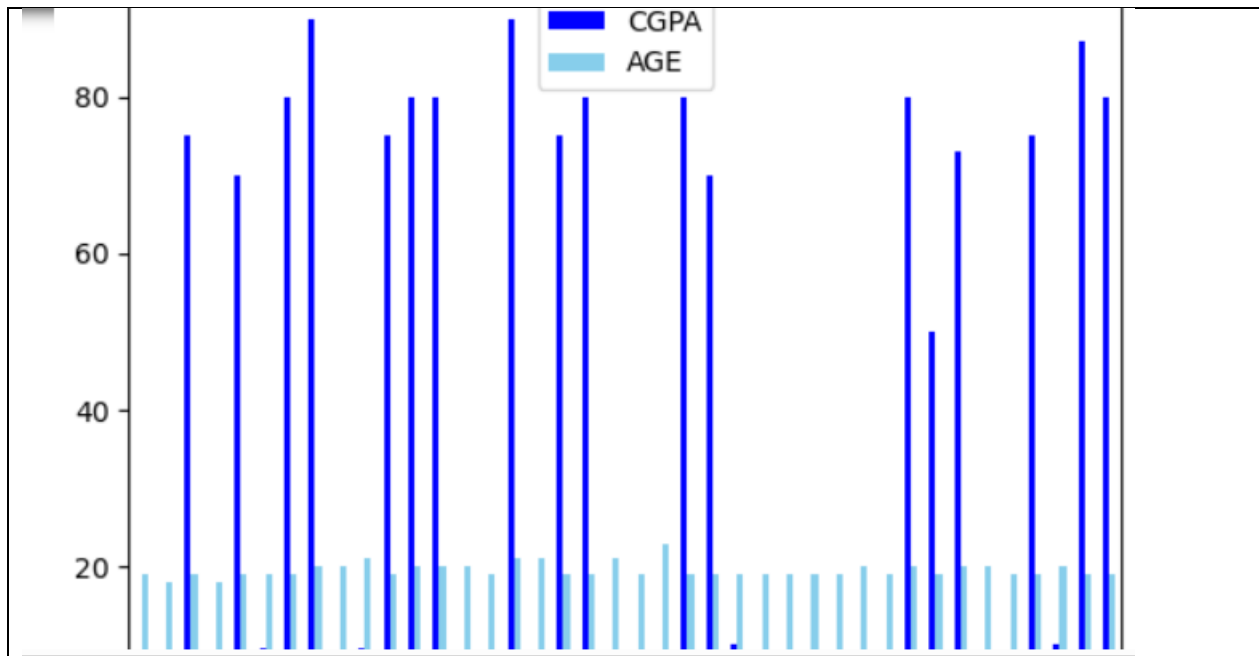

```
df2.plot.bar(color=['blue','skyblue','purple'])
df2
```
Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
1	adilakshmi4765@gmail.com	N.Venkatesh	21KP1A4468	N.Manikya Rao	N.Sri Lakshmi	CSE	83.00	19	CSE-DS	II-II	602515258256
3	sandeepyeruva1124@gmail.com	Yeruva sandeep reddy	21KP1A44D1	Yeruva Ajay Kumar reddy	Yeruva Anjali Devi	CSE	9.50	20	CSE	2-3	576154990146
14	patchachinnu3@gmail.com	Patcha Jaswanth	21KP1A4477	Patcha apparao	Patcha sukanya	CSE	0.99	20	Data science	2-2	744020413963
28	hemasanjushasanikommu828@gmail.com	hema sanjusha	21KP1A4491	musalareddy	sivaparvathi	CSE	73.00	18	cse	2-2	422314863763
34	sudhamshavejendla@gmail.com	Vejendla Devi Sri Sudhamsha	21KP1A44C4	Vejendla Srinivass Rao	Vejendla Laxmi Prasanna	CSE	70.00	19	Cse-Data Science	2_2	587480445790
37	indhupotla123@gmail.com	indhu priya	21KP1A4483	Lakshmanarayana	Sujatha	CSE	72.00	19	cse	2-2	524345891620
39	jaffershaik718@gmail.com	Jaffer shaik	21KP1A4495	shaik.LaiLaha	shaik.Ramjan bee	CSE	70.00	19	cse	2nd	912229276699
47	saisairam068@gmail.com	Sairam	21kp1a44b4	Venkata subbiah	Ravanamma	CSE	10.00	19	Da	2-2	746109575146


```
df3.plot.bar(color=['indigo','skyblue','darkgreen'])
df3
```
Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
26	abdulkhadar6842@gmail.com	Shaik.Abdul Khadar	21KP1A4493	Shaik.Kareem	Shaik.Farjana	ECE	8.0	20	20	2-2	334708289154
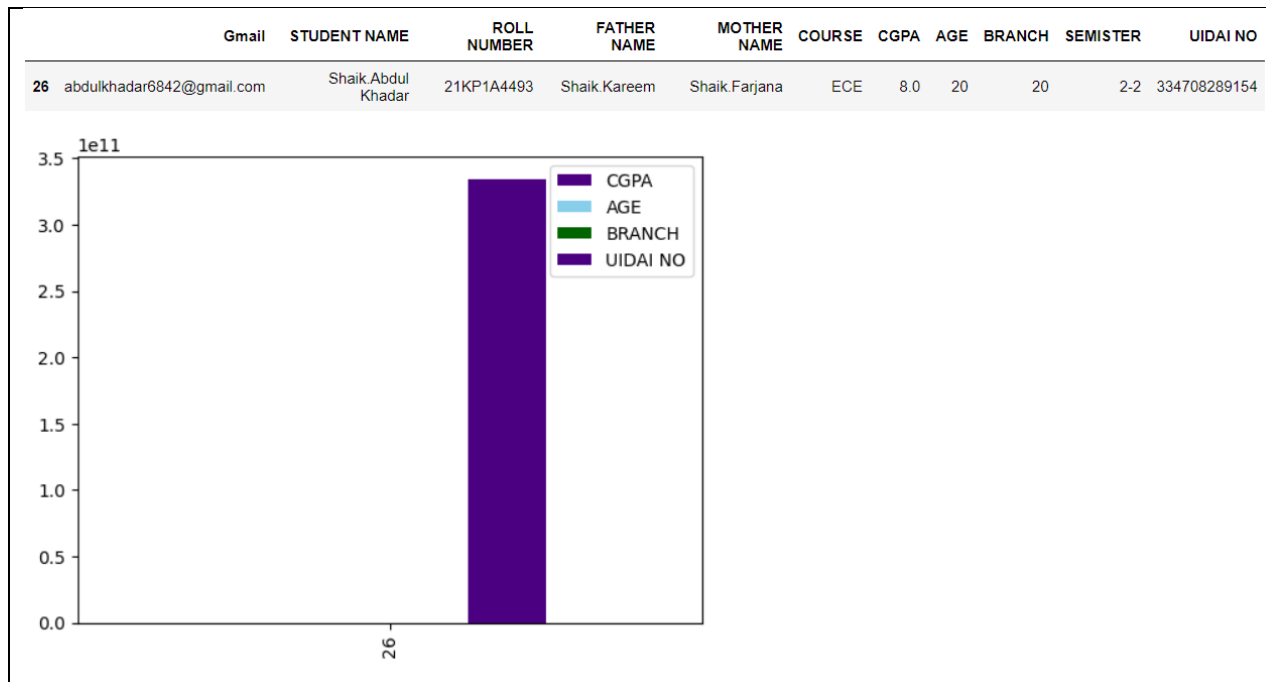
df4.plot.bar(color=['blue','skyblue','purple'])
df4

Output:

	Gmail	STUDENT NAME	ROLL NUMBER	FATHER NAME	MOTHER NAME	COURSE	CGPA	AGE	BRANCH	SEMISTER	UIDAI NO
2	sravankumar7156@gmail.com	Sravan Kumar	21KP1A4488	Rama Chandra Rao	Venkateswaramma	MECH	7.0	20	mech	4	930319053088
8	syedtasleem07@gmail.com	Syed Tasleem Afroze	21KP1A44A9	Syed Rahiman	Syed Naseema	MECH	8.0	19	DS	2-2	617020354793
15	manu952041@gmail.com	Pachipulusu Manohar	21KP1A4472	Pachipulusu Prasad	Pachipulusu Bhavani	MECH	8.5	19	19	2-2	559366114423

Counting the values of CGPA-

```
x=df2.CGPA.value_counts()
x
```

Output:

```
70.00   2
83.00   1
9.50    1
0.99    1
73.00   1
72.00   1
10.00   1
Name: CGPA, dtype: int64
```

Using DataFrame function and visualizing the data in PIE chart-

```
d12=pd.DataFrame({"Result":['pass','Fail'],"vals":[6,30]})
plt.pie(d12["vals"],labels=d12["Result"])
plt.show()
```
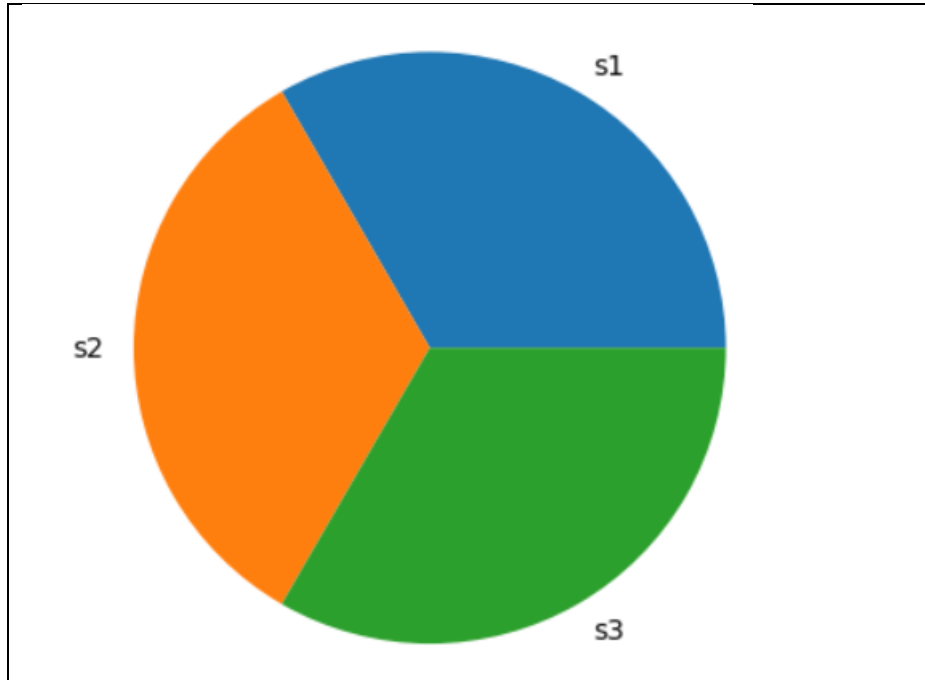
Output:
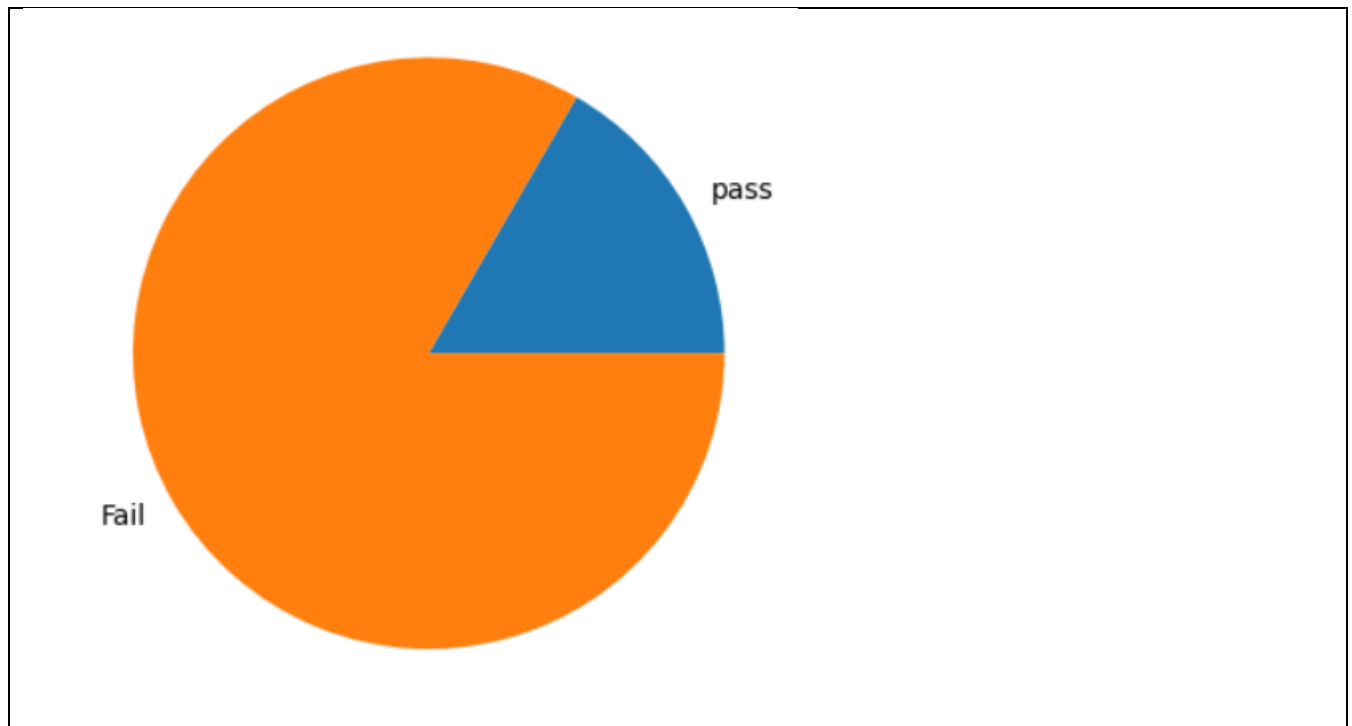
```
b=df1.CGPA.value_counts()
b
```

Output:

```
80.00   7
75.00   4
8.00    3
0.75    2
70.00   2
90.00   2
9.20    2
7.00    2
7.50    2
10.00   2
9.00    1
0.70    1
73.00   1
50.00   1
0.98    1
8.30    1
7.70    1
0.72    1
8.80    1
9.50    1
9.60    1
87.00   1
Name: CGPA, dtype: int64
```

```
d13=pd.DataFrame({"Result":['pass','Fail'],"vals":[1,40]})
plt.pie(d13["vals"],labels=d13["Result"])
plt.show()
```

Output:
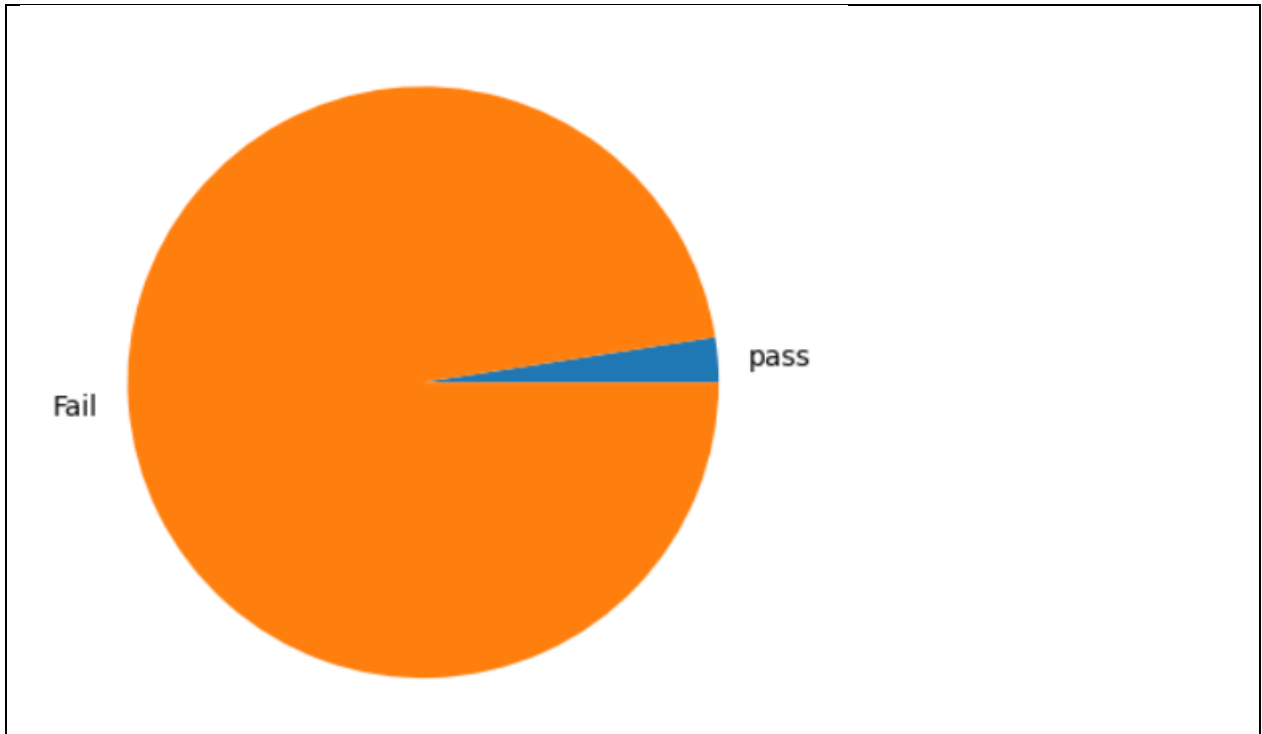

```
d=df4.CGPA.value_counts()
d
```
Output:
7.0   1
8.0   1
8.5   1
Name: CGPA, dtype: int64

```
e=plt.pie(d,labels=['s1','s2','s3'])
plt.show()
```
Output:

Counting the values based on BRANCH attribute-

```
d22=df.BRANCH.value_counts().head()
d22
```

Output:
DS   7
Data science   6
CSD   6
Ds   4
cse   3
Name: BRANCH, dtype: int64

```
t=plt.pie(d22,labels=['DS','Data science','CSD','Ds','cse'])
plt.show()
```

Output:
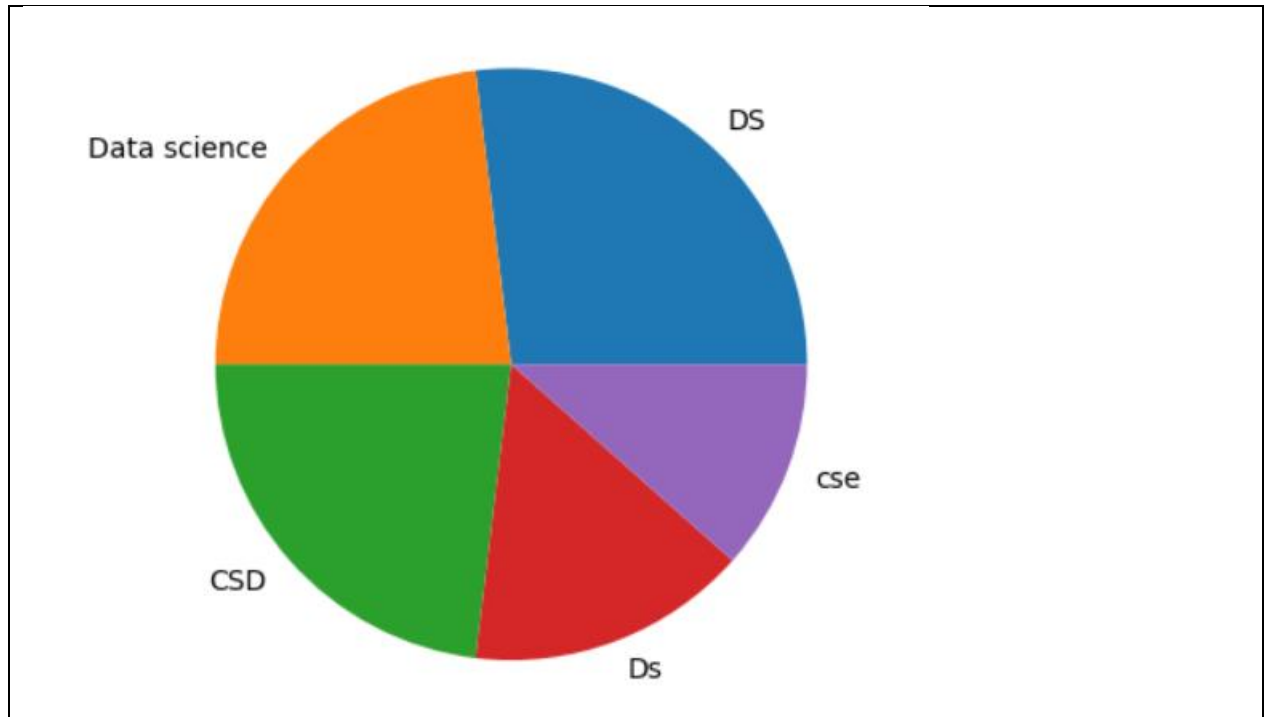
Dividing the PIE chart based on the Branch labels-

```
t=plt.pie(d22,labels=['DS','Data science','CSD','Ds','cse'],explode=[0.1,0.1,0.1,0.1,0.1],shadow=True)
plt.show()
```
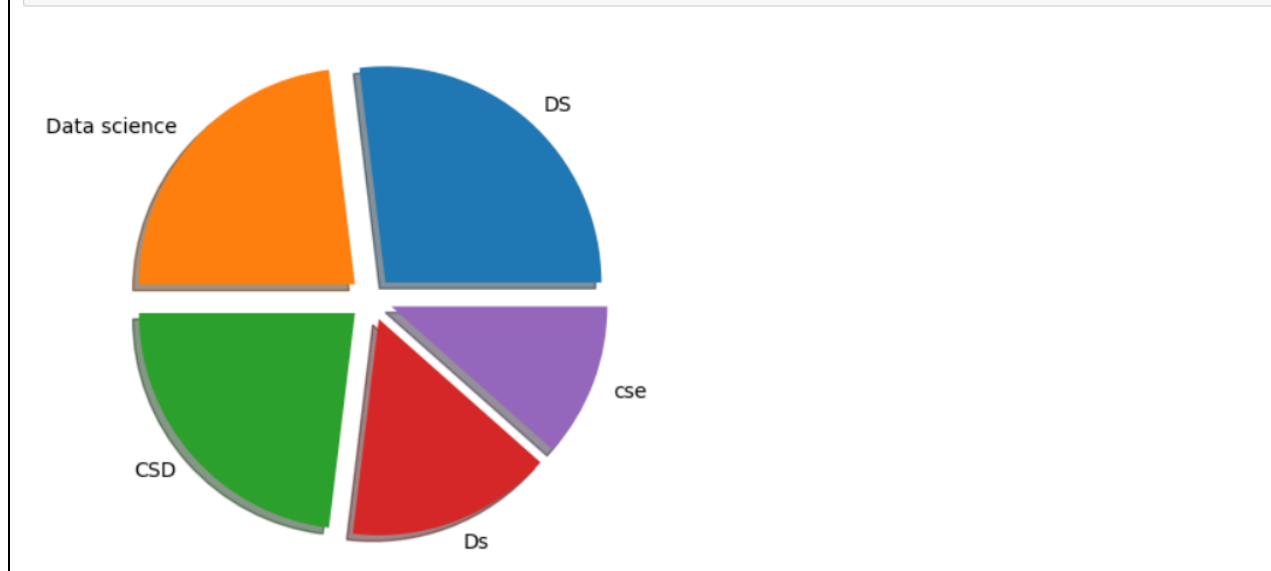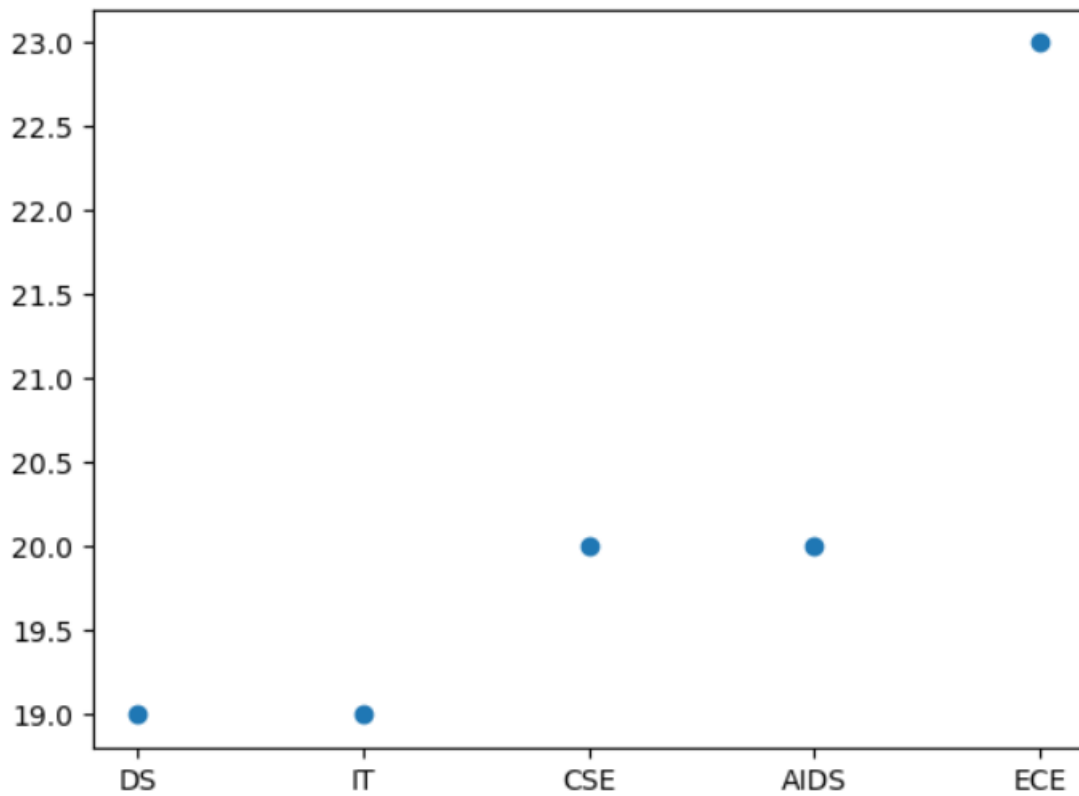
Plotting the LINE chart according to the data -

```python
plt.plot(df['AGE'],df['COURSE'])
plt.xlabel('AGE')
plt.ylabel('COURSE')
plt.title('Student details')
plt.show()
```
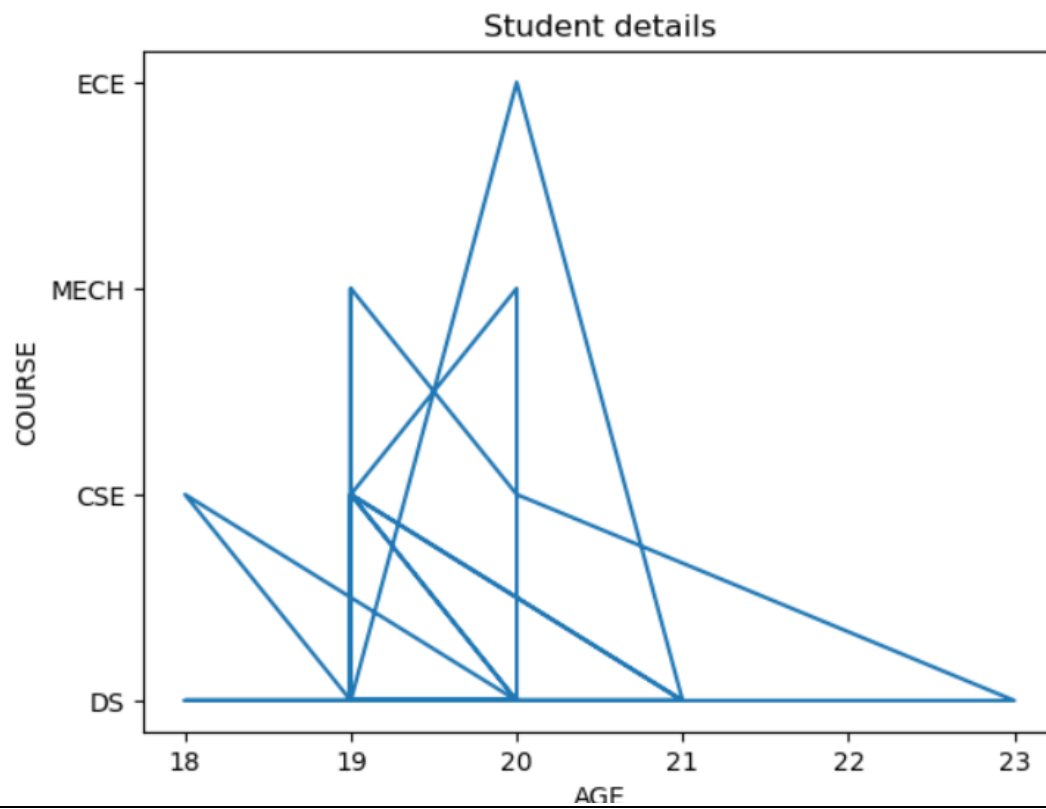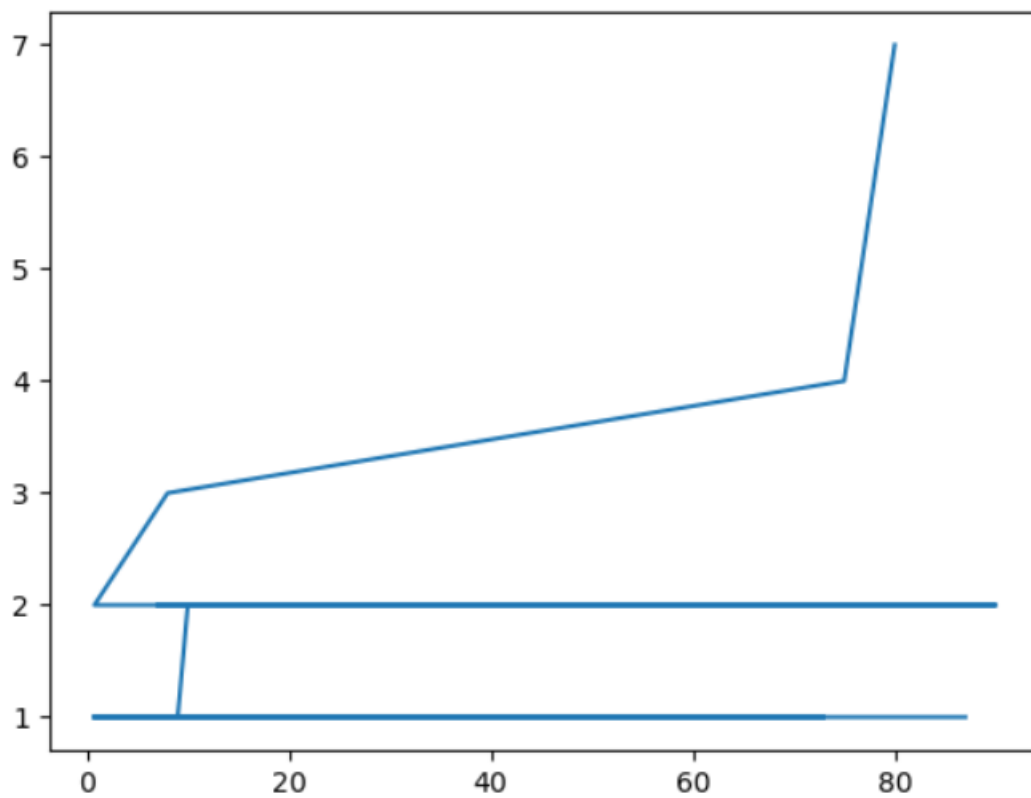
Plotting the scatter using scatter() function-

```
BRANCH=['DS','IT','CSE','AIDS','ECE']
S=df.AGE.head()
plt.scatter(BRANCH,S)
plt.show()
```

```
plt.plot(b)
plt.show()
```

<u>OUTPUT</u>

STUDENT DATA IS ANALYSED USING DATA ANALYTICS WITH PYTHON
Student database analysis using data analytics can yield various outputs depending on the objectives of the analysis and the insights derived from the data.

Analyzing student data using data analytics can yield valuable insights into various aspects of academic performance, behavior patterns, and resource allocation.

<u>SUMMARY</u>

In this project, we aimed to develop a STUDENT DATABASE ANALYSIS using data   analytics, with a focus on time series analysis techniques implemented in Python.

STUDENT DATABASE ANALYSIS using data analytics is a significant issue for many educational landscape, and analysis is essential to minimize student redundant data.

The student database analysis project leverages Python programming and data analytics techniques to extract valuable insights from a dataset containing student records. The project focuses on understanding factors influencing student performance and behavior, with the aim of informing educational strategies and interventions.