Name: - L Prathyusha

Topic: - Analysis of the data (Relationship Analysis)

In [4]:

```python
import pandas as pd
import numpy as np
```

In [5]:

```python
data=pd.read_csv("C:/Users/Prathyu Lachireddy/Desktop/BP/Students.csv")
data
```

Out[5]:

	gender	race/ethnicity	parental level of education	lunch	test preparation course	math score	reading score	writing score
0	female	group B	bachelor's degree	standard	none	72	72	74
1	female	group C	some college	standard	completed	69	90	88
2	female	group B	master's degree	standard	none	90	95	93
3	male	group A	associate's degree	free/reduced	none	47	57	44
4	male	group C	some college	standard	none	76	78	75
...	...	...	...	...	...	...	...	...
995	female	group E	master's degree	standard	completed	88	99	95
996	male	group C	high school	free/reduced	none	62	55	55
997	female	group C	high school	free/reduced	completed	59	71	65
998	female	group D	some college	standard	completed	68	78	77
999	female	group D	some college	free/reduced	none	77	86	86

1000 rows × 8 columns

In [6]:

```
data.head()
```

Out[6]:

	gender	race/ethnicity	parental level of education	lunch	test preparation course	math score	reading score	writing score
0	female	group B	bachelor's degree	standard	none	72	72	74
1	female	group C	some college	standard	completed	69	90	88
2	female	group B	master's degree	standard	none	90	95	93
3	male	group A	associate's degree	free/reduced	none	47	57	44
4	male	group C	some college	standard	none	76	78	75

In [7]:

```
data.tail()
```

Out[7]:

	gender	race/ethnicity	parental level of education	lunch	test preparation course	math score	reading score	writing score
995	female	group E	master's degree	standard	completed	88	99	95
996	male	group C	high school	free/reduced	none	62	55	55
997	female	group C	high school	free/reduced	completed	59	71	65
998	female	group D	some college	standard	completed	68	78	77
999	female	group D	some college	free/reduced	none	77	86	86

In [8]:

```
## Cleaning the data
```

In [9]:

```python
#null values
data.isnull().sum()
```

Out[9]:

```
gender                         0
race/ethnicity                 0
parental level of education    0
lunch                          0
test preparation course        0
math score                     0
reading score                  0
writing score                  0
dtype: int64
```

In [10]:

```python
#
student=data.drop(['race/ethnicity','parental level of education'],axis=1)
student
```

Out[10]:

	gender	lunch	test preparation course	math score	reading score	writing score
0	female	standard	none	72	72	74
1	female	standard	completed	69	90	88
2	female	standard	none	90	95	93
3	male	free/reduced	none	47	57	44
4	male	standard	none	76	78	75
...	...	...	...	...	...	...
995	female	standard	completed	88	99	95
996	male	free/reduced	none	62	55	55
997	female	free/reduced	completed	59	71	65
998	female	standard	completed	68	78	77
999	female	free/reduced	none	77	86	86

1000 rows × 6 columns

Relationship Analysis

In [13]:

```python
correlation=data.corr()
```
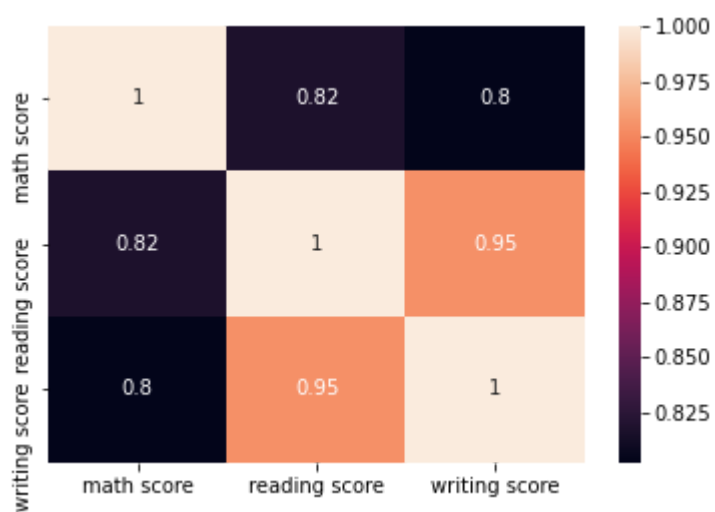
In [14]:

```
correlation
```

Out[14]:

	math score	reading score	writing score
math score	1.000000	0.817580	0.802642
reading score	0.817580	1.000000	0.954598
writing score	0.802642	0.954598	1.000000

In [18]:

```
import seaborn as sns
sns.heatmap(correlation,xticklabels=correlation.columns,yticklabels=correlation.columns,ann
```
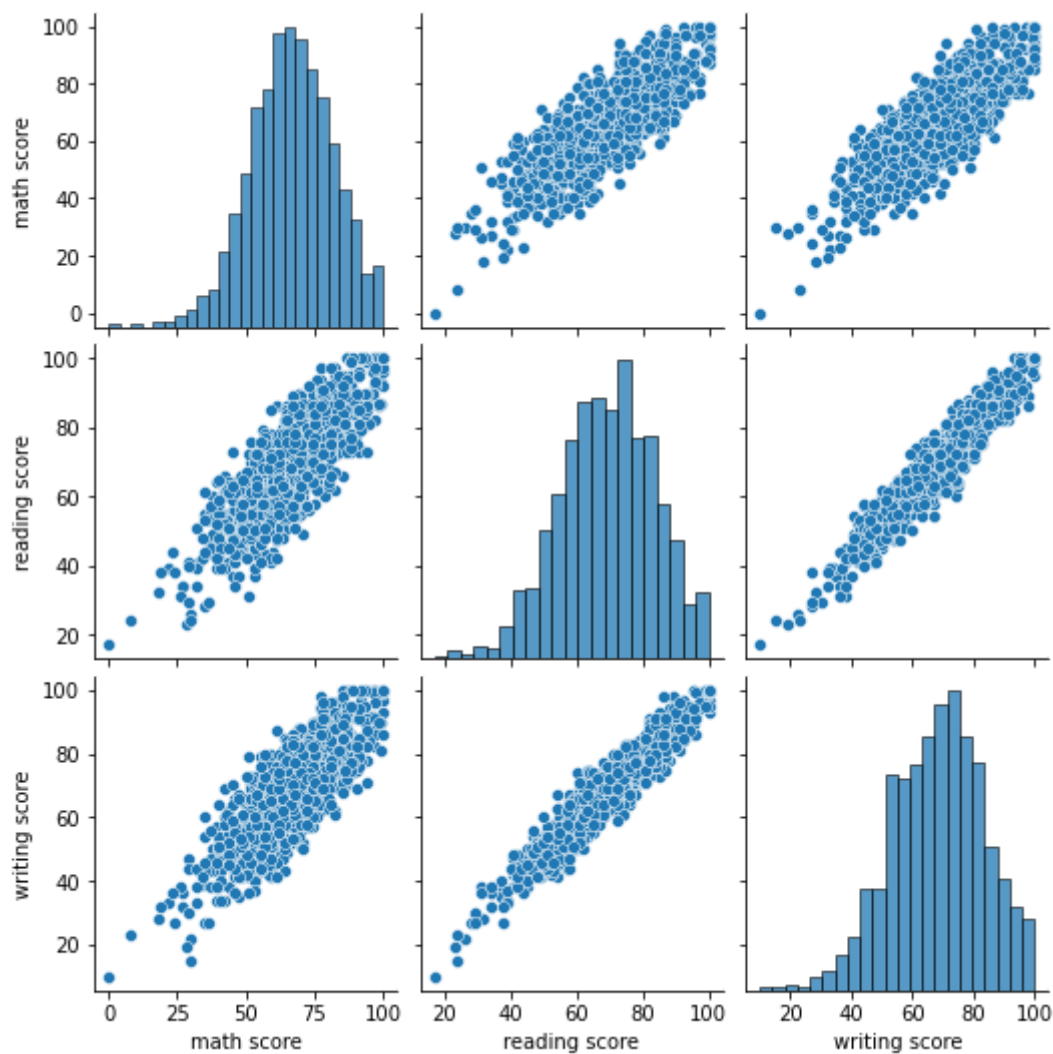
Out[18]:

```
<AxesSubplot:>
```

In [19]:

```
sns.pairplot(student)
```

Out[19]:

```
<seaborn.axisgrid.PairGrid at 0x2666ff4c370>
```

In [ ]: