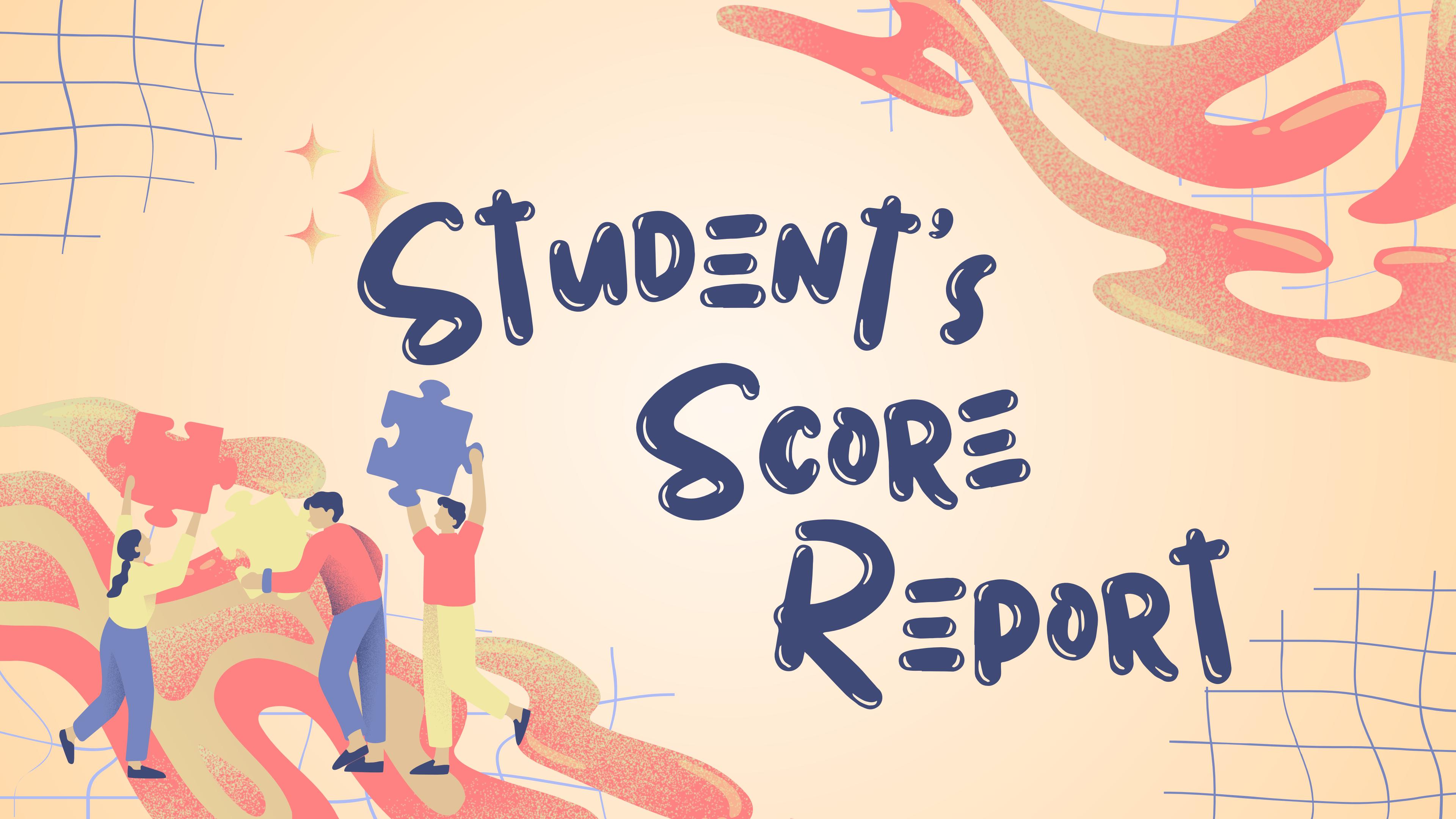


Student's Score Report



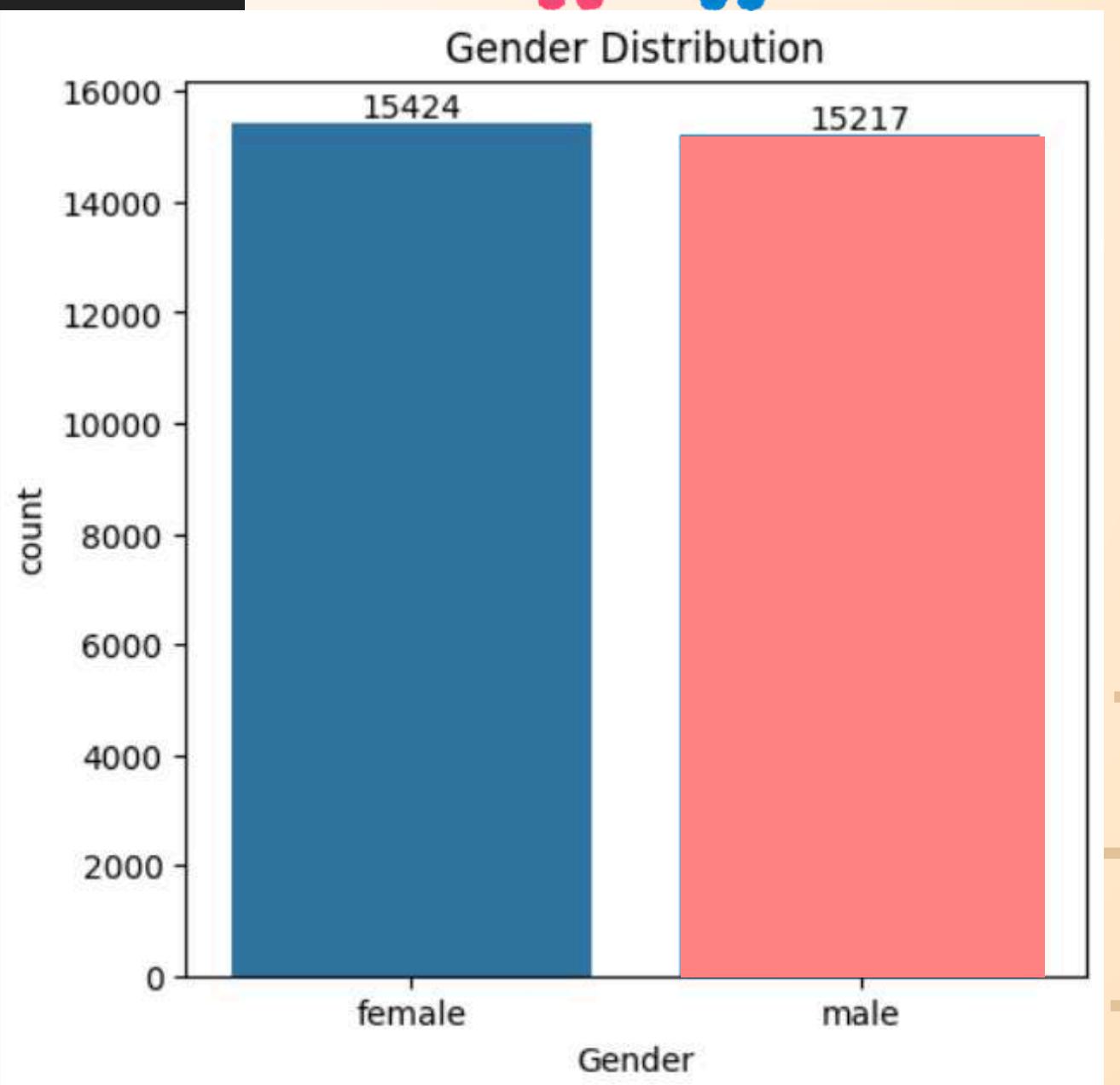
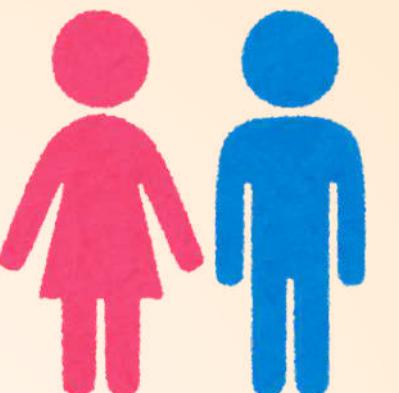
INTRODUCTION

The goal of this project is to analyze the relationship between various demographic and socio-economic factors and student performance in academic subjects such as Math, Reading, and Writing. The dataset includes information on gender, ethnic group, parental education level, lunch type, test preparation, parental marital status, sports practice, birth order, number of siblings, transport means, and weekly study hours. By exploring this data, we aim to identify patterns and correlations that could help in understanding the factors contributing to academic success and provide insights for educational strategies and interventions.



“Gender Distribution”

```
plt.figure(figsize=(5,5))
ax = sns.countplot(data = df, x = "Gender")
ax.bar_label(ax.containers[0])
plt.title("Gender Distribution")
plt.show()
```



FROM THE CHART WE HAVE
ANALYSED THAT:
THE NUMBER OF FEMALES IN
THE DATA IS MORE THAN THE
NUMBER OF MALES



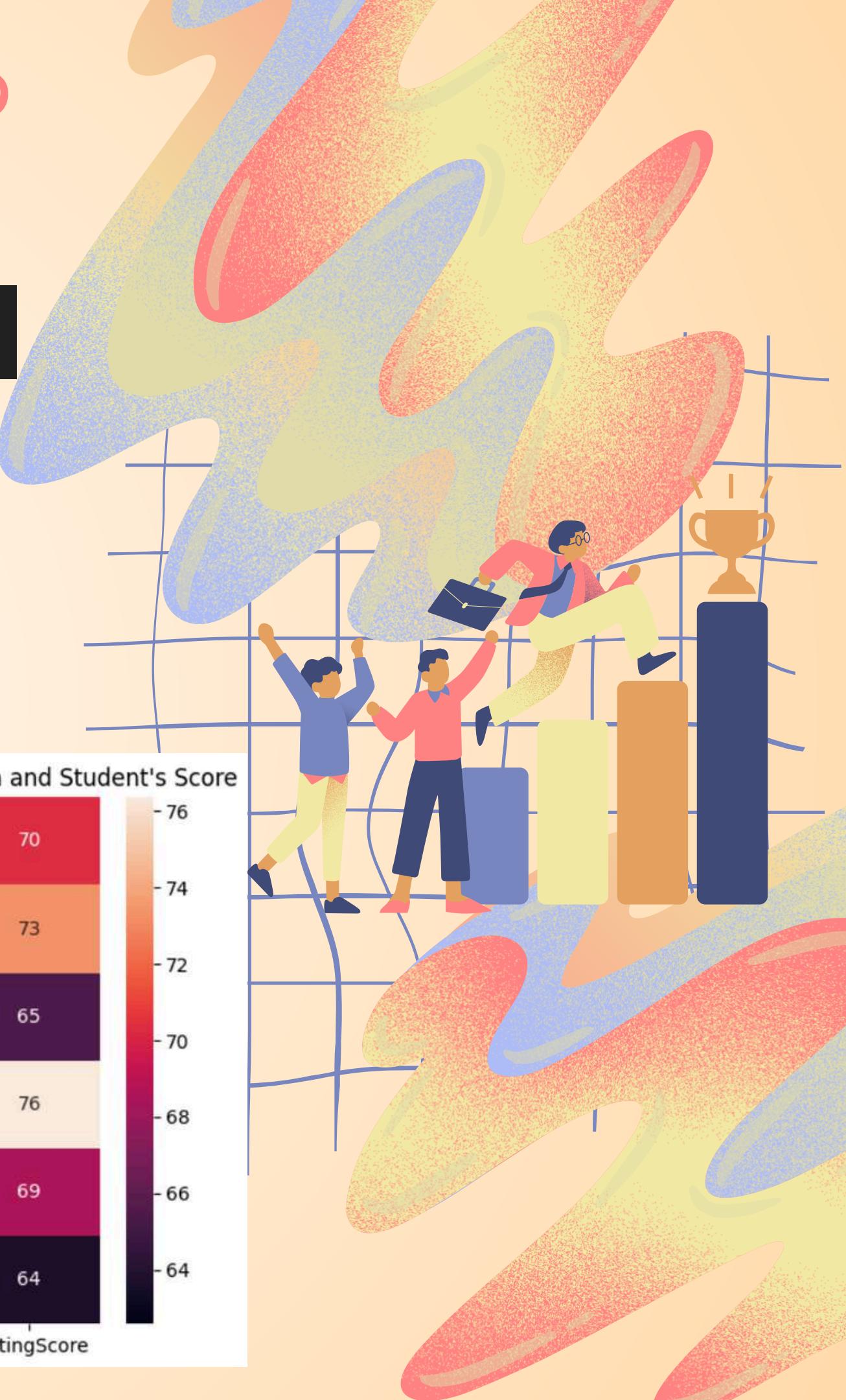
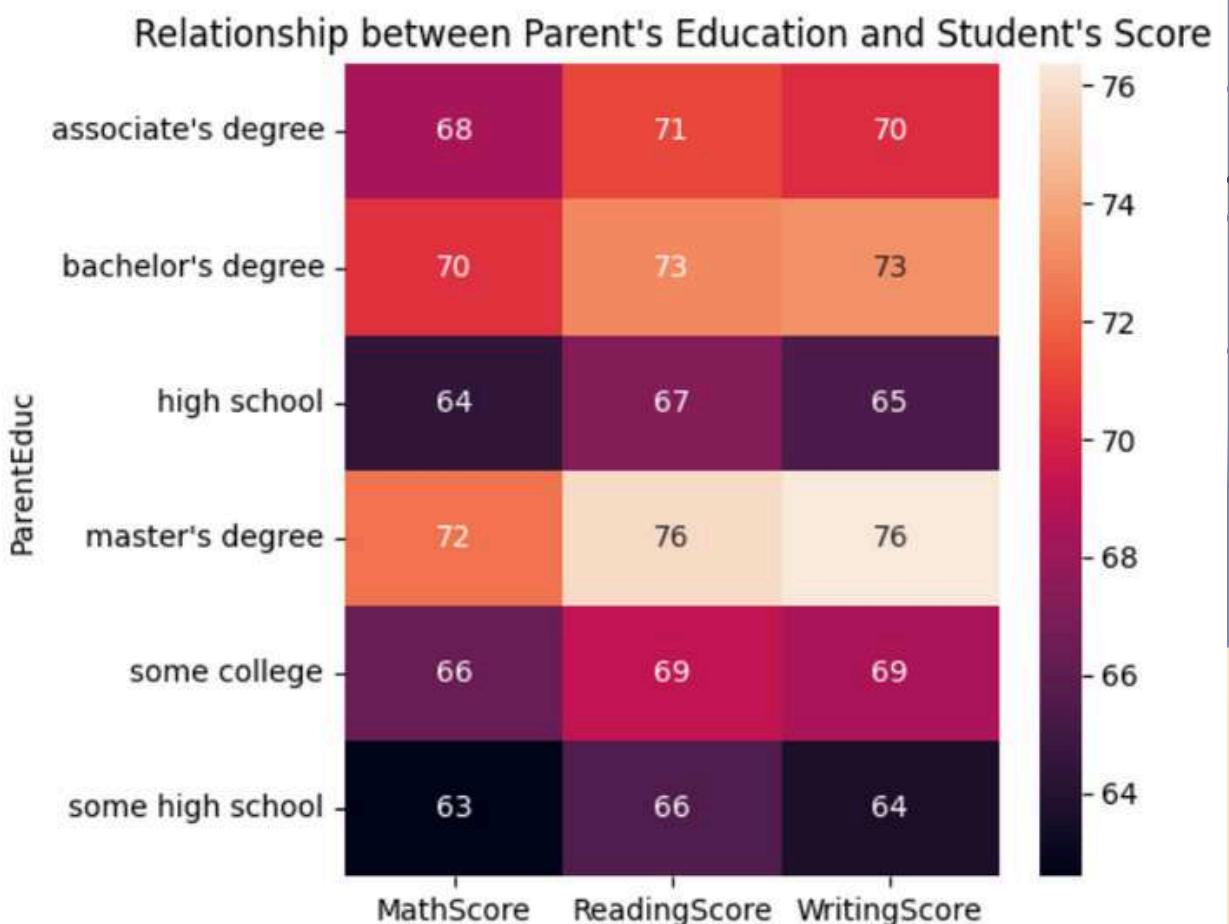
"RELATIONSHIP BETWEEN PARENT'S EDUCATION AND STUDENT'S SCORE"

```
gb = df.groupby("ParentEduc").agg({"MathScore": "mean", "ReadingScore": "mean", "WritingScore": "mean"})
print(gb)
```

ParentEduc	MathScore	ReadingScore	WritingScore
associate's degree	68.365586	71.124324	70.299099
bachelor's degree	70.466627	73.062020	73.331069
high school	64.435731	67.213997	65.421136
master's degree	72.336134	75.832921	76.356896
some college	66.390472	69.179708	68.501432
some high school	62.584013	65.510785	63.632409

```
plt.figure(figsize = (5,5))
sns.heatmap(gb, annot = True)
plt.title("Relationship between Parent's Education and Student's Score")
plt.show()
```

FROM THE CHART WE HAVE CONCLUDED THAT THE : EDUCATION OF THE PARENTS HAVE A GOOD IMPACT ON THEIR SCORE



"RELATIONSHIP BETWEEN PARENT'S MARITAL STATUS AND STUDENT'S SCORE"

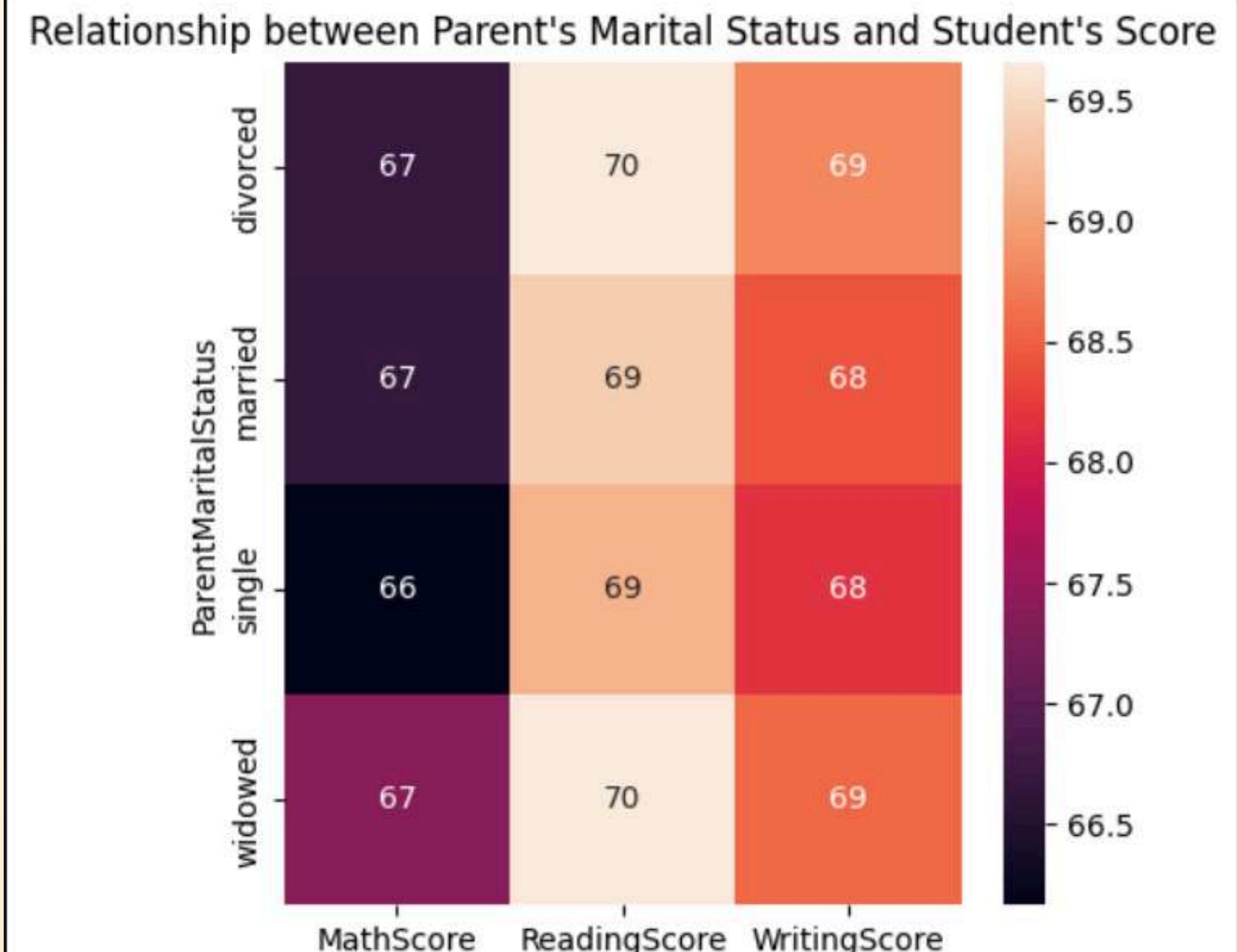
```
gb1 = df.groupby("ParentMaritalStatus").agg({"MathScore": "mean", "ReadingScore": "mean", "WritingScore": "mean"})
print(gb1)
```

ParentMaritalStatus	MathScore	ReadingScore	WritingScore
divorced	66.691197	69.655011	68.799146
married	66.657326	69.389575	68.420981
single	66.165704	69.157250	68.174440
widowed	67.368866	69.651438	68.563452



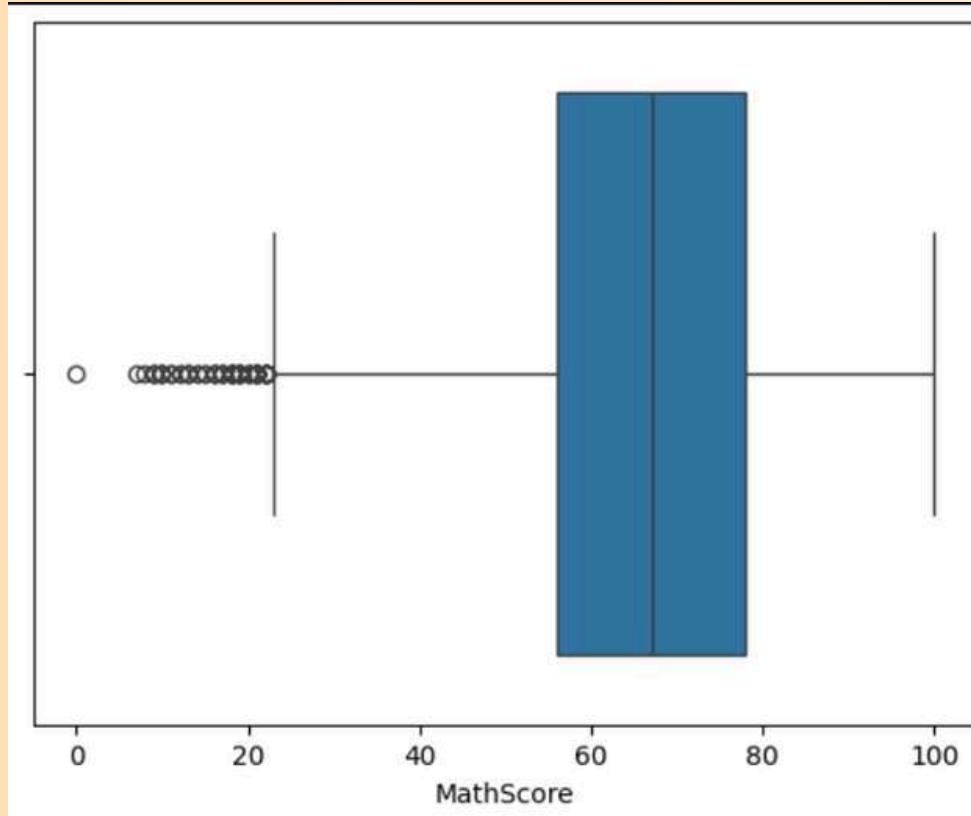
```
plt.figure(figsize = (5,5))
sns.heatmap(gb1, annot = True)
plt.title("Relationship between Parent's Marital Status and Student's Score")
plt.show()
```

FROM THE CHART WE HAVE CONCLUDED THAT : THERE IS NO/NEGLIGIBLE IMPACT ON THE STUDENT'S SCORE DUE TO THEIR PARENT'S MARTAIL STATUS

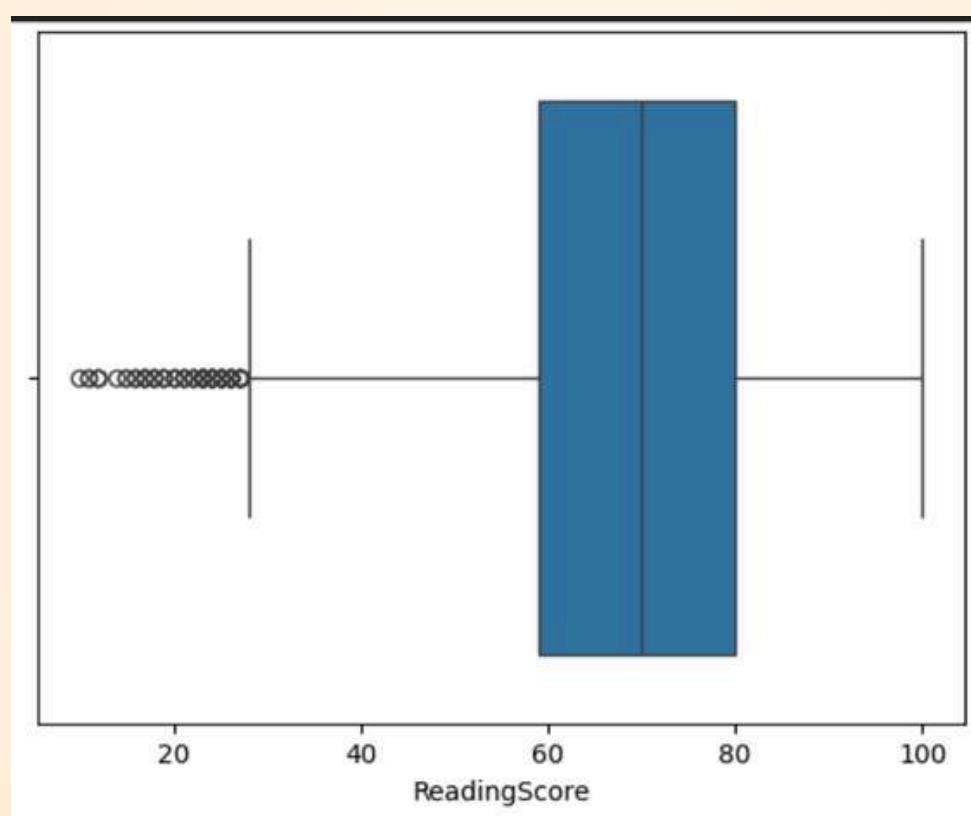


"Outliers, extreme value of the Subject"

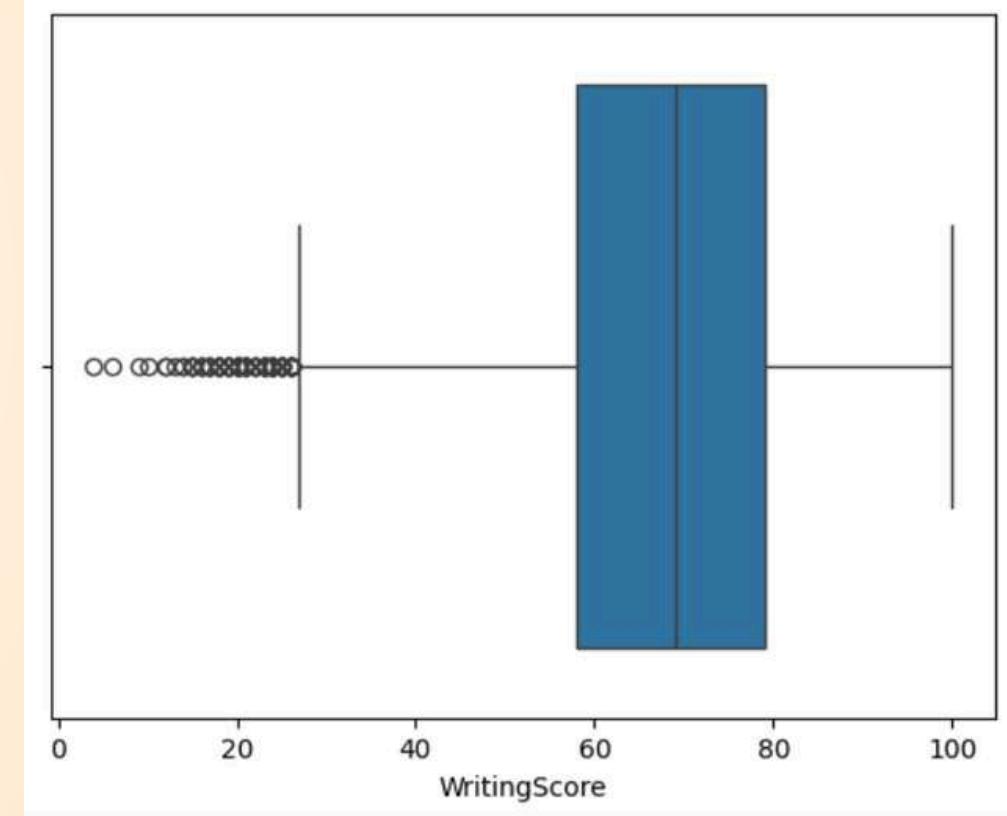
```
sns.boxplot(data = df, x = "MathScore")  
plt.show()
```



```
sns.boxplot(data = df, x = "ReadingScore")  
plt.show()
```



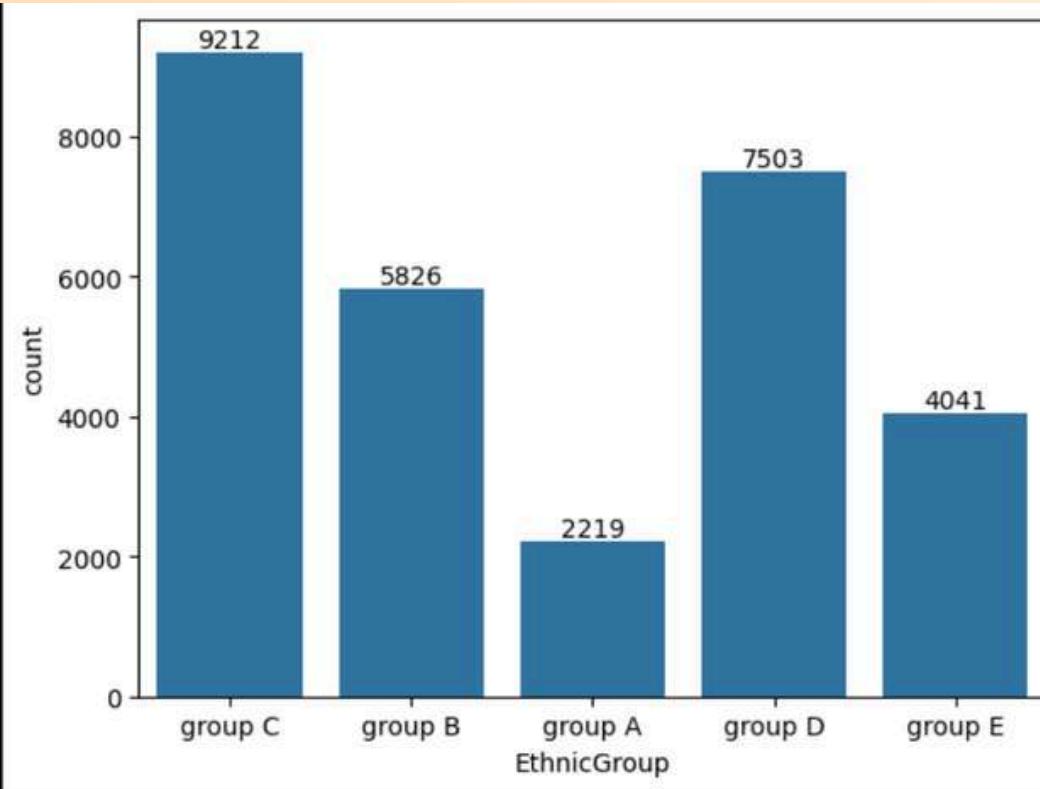
```
sns.boxplot(data = df, x = "WritingScore")  
plt.show()
```



"Distribution of Ethnic Groups"

```
ax = sns.countplot(data = df, x = "EthnicGroup")
ax.bar_label(ax.containers[0])

[Text(0, 0, '9212'),
Text(0, 0, '5826'),
Text(0, 0, '2219'),
Text(0, 0, '7503'),
Text(0, 0, '4041')]
```

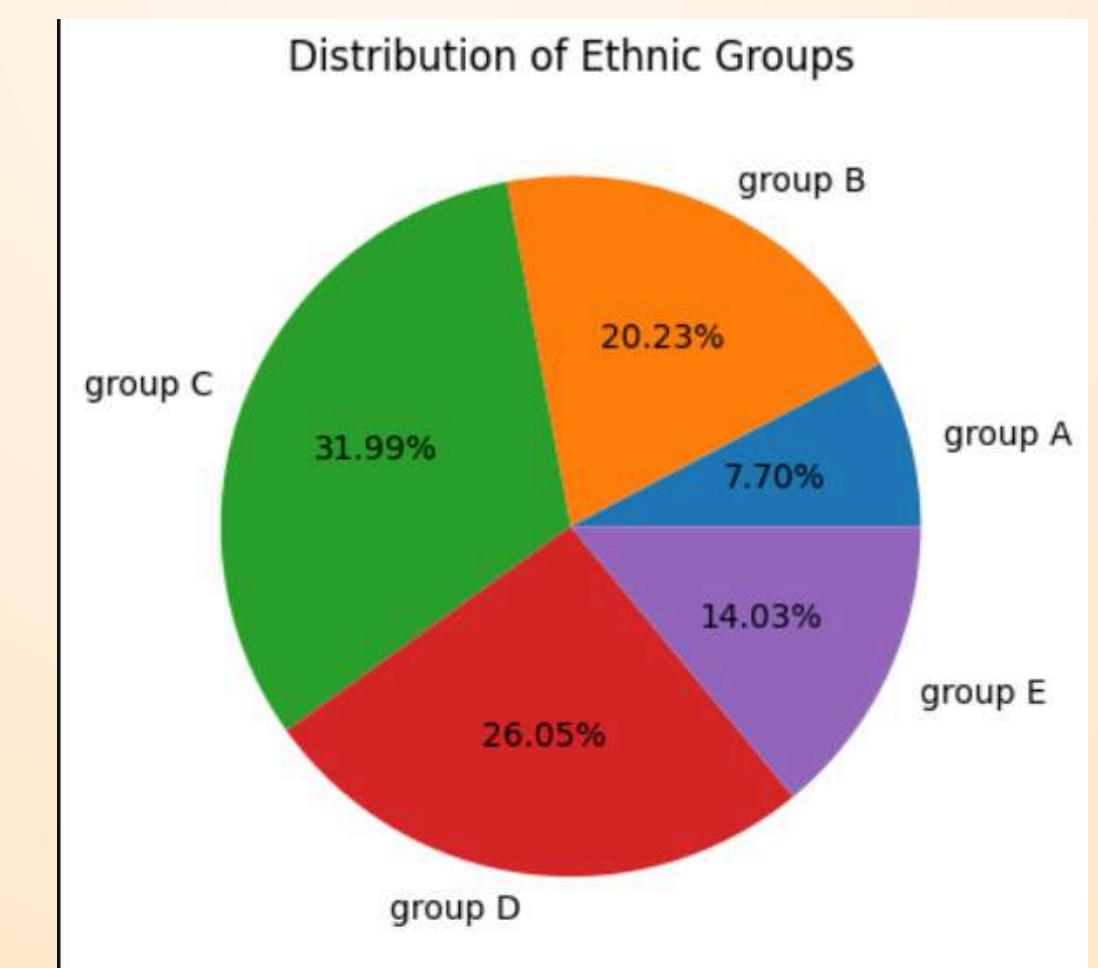


```
groupA = df.loc[(df['EthnicGroup'] == "group A")].count()
groupB = df.loc[(df['EthnicGroup'] == "group B")].count()
groupC = df.loc[(df['EthnicGroup'] == "group C")].count()
groupD = df.loc[(df['EthnicGroup'] == "group D")].count()
groupE = df.loc[(df['EthnicGroup'] == "group E")].count()

l = ["group A", "group B", "group C", "group D", "group E"]

mlist =[groupA["EthnicGroup"], groupB["EthnicGroup"], groupC["EthnicGroup"], groupD["EthnicGroup"], groupE["EthnicGroup"]]

plt.pie(mlist, labels = l, autopct = "%1.2f%%")
plt.title("Distribution of Ethnic Groups")
plt.show()
```





THANK YOU