

Import the necessary libraries to perform the processing and plotting.

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.preprocessing import LabelEncoder
```

Load and isolate the Gender column needed for the univariant analysis.

```
raw_data = pd.read_csv("./data/raw_data.csv")
gender_data = raw_data['Gender']
```

Find the mode of the data and prepare it to replace missing data with the mode.

```
mode = gender_data.mode().values[0]
if mode == "Male":
    mode = 0
elif mode == "Female":
    mode = 1
else: mode = 2
```

Encode the Gender column to save space and improve processing speeds.

```
le = LabelEncoder()
encoded_gender = le.fit_transform(gender_data)
```

Replace every instance of missing data (transformed to 2) with the mode of the data (in this case Male or 0 after encoded).

```
encoded_gender = np.where(encoded_gender == 2, mode, encoded_gender)
```

Now we can continue to count the number of each instance of Male(489) or Female(125) = 614.

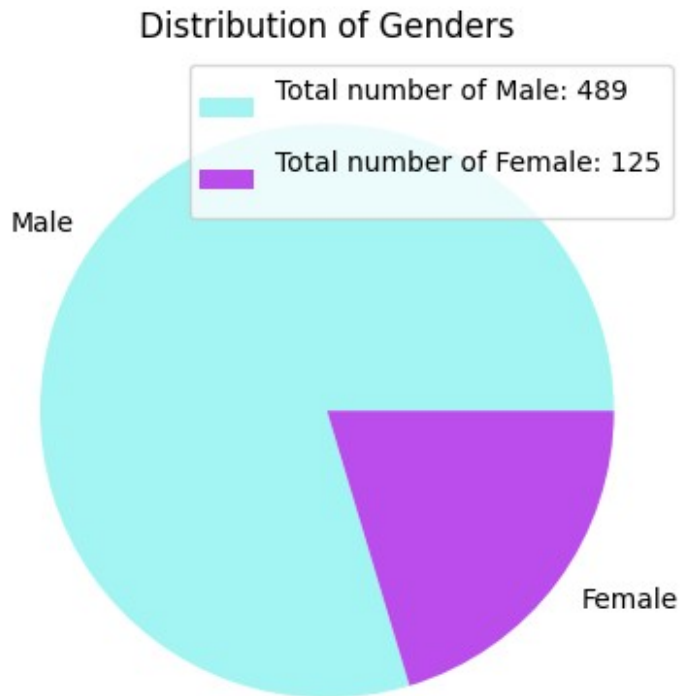
```
a = np.array(encoded_gender)
b = np.unique(a, return_counts=True)
male_totals = b[1][1]
female_totals = b[1][0]
gender_totals = male_totals, female_totals
```

Plot the data using a pie chart.

```
plt.pie(gender_totals, labels=['Male', 'Female'], colors=['#A3F5F3',
'#BB4DED'])
plt.title('Distribution of Genders')

legend_text = [
```

```
f"Total number of Male: {gender_totals[0]}\n",  
f"Total number of Female: {gender_totals[1]}\n",  
]  
plt.legend(labels=legend_text, loc='upper right', facecolor=None)  
plt.show()
```



As we can see from the pie chart, the majority of people are males. In total there are 489 males and 125 females for a total of 614 participants.