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!pip install cartopy
!pip install basemap

import pandas as pd
import matplotlib.pyplot as plt
from mpl_toolkits.basemap import Basemap

df = pd.read_csv('/COVID19-eng.csv')

# Initialize the Basemap
m = Basemap(projection='mill',llcrnrlat=-60,urcnrlat=90,llcrnrlon=-180,urcnrlon=180,resolution='c')

# 1. Analysis based on gender
gender_counts = df['COV_GDR'].value_counts()
gender_labels = ['Male', 'Female', 'Not Stated']
gender_colors = ['blue', 'pink', 'gray']

plt.figure(figsize=(10, 6))
plt.pie(gender_counts, labels=gender_labels, autopct='%1.1f%%', colors=gender_colors)
plt.title('Gender Distribution')
plt.show()

# 2. Analysis based on hospitalization status
hospitalization_counts = df['COV_HSP'].value_counts()
hospitalization_labels = ['Hospitalized and in ICU', 'Hospitalized, not in ICU', 'Not Hospitalized', 'Not Stated/Unknown']

plt.figure(figsize=(10, 6))
plt.bar(hospitalization_labels, hospitalization_counts, color='orange')
plt.title('Hospitalization Status Distribution')
plt.show()

# 3. Analysis based on age group
age_group_counts = df['COV_AGR'].value_counts().sort_index()

plt.figure(figsize=(10, 6))
plt.bar(age_group_counts.index.astype(str), age_group_counts, color='green')
plt.title('Age Group Distribution')
plt.show()

# 5. Analysis based on episode week
episode_week_counts = df['COV_EW'].value_counts().sort_index()

plt.figure(figsize=(10, 6))
plt.plot(episode_week_counts.index.astype(str), episode_week_counts, marker='o', linestyle='-', color='purple')
plt.title('Episode Week Distribution')
plt.show()

# 6. Analysis based on clinical outcome
clinical_outcome_counts = df['COV_DTH'].value_counts()
clinical_outcome_labels = ['Death', 'Recovered', 'Not Stated']

plt.figure(figsize=(10, 6))
plt.pie(clinical_outcome_counts, labels=clinical_outcome_labels, autopct='%1.1f%%', colors=['red', 'green', 'gray'])
plt.title('Clinical Outcome Distribution')
plt.show()
```

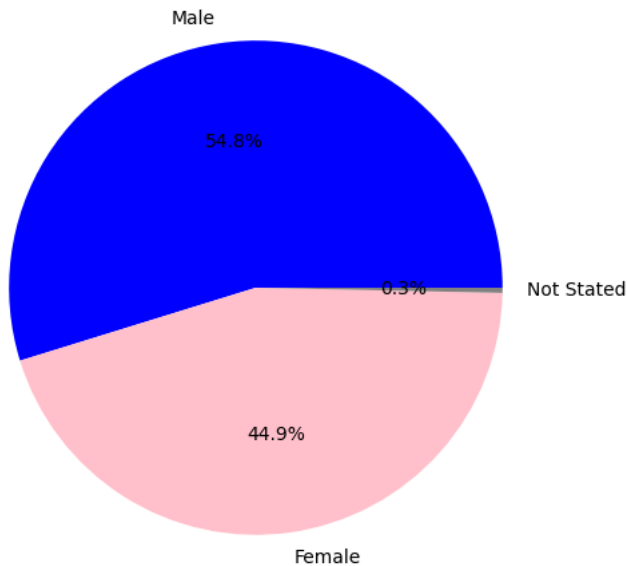
```

Collecting cartopy
  Downloading Cartopy-0.22.0-cp310-cp310-manylinux_2_17_x86_64.manylinux2014_x86_64.whl (11.8 MB)
    11.8/11.8 MB 18.7 MB/s eta 0:00:00
Requirement already satisfied: numpy>=1.21 in /usr/local/lib/python3.10/dist-packages (from cartopy) (1.23.5)
Requirement already satisfied: matplotlib>=3.4 in /usr/local/lib/python3.10/dist-packages (from cartopy) (3.7.1)
Requirement already satisfied: shapely>=1.7 in /usr/local/lib/python3.10/dist-packages (from cartopy) (2.0.2)
Requirement already satisfied: packaging>=20 in /usr/local/lib/python3.10/dist-packages (from cartopy) (23.2)
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Requirement already satisfied: pyproj>=3.1.0 in /usr/local/lib/python3.10/dist-packages (from cartopy) (3.6.1)
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Requirement already satisfied: fonttools>=4.22.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.4->cartopy) (4.47.2)
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Requirement already satisfied: pillow>=6.2.0 in /usr/local/lib/python3.10/dist-packages (from matplotlib>=3.4->cartopy) (9.4.0)
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Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib>=3.4->cartopy) (1.16.0)
Installing collected packages: cartopy
Successfully installed cartopy-0.22.0

Collecting basemap
  Downloading basemap-1.4.0-cp310-cp310-manylinux1_x86_64.whl (935 kB)
    935.8/935.8 kB 8.4 MB/s eta 0:00:00
Collecting basemap-data<1.4,>=1.3.2 (from basemap)
  Downloading basemap_data-1.3.2-py2.py3-none-any.whl (30.5 MB)
    30.5/30.5 MB 13.6 MB/s eta 0:00:00
Requirement already satisfied: pyshp<2.4,>=1.2 in /usr/local/lib/python3.10/dist-packages (from basemap) (2.3.1)
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Requirement already satisfied: certifi in /usr/local/lib/python3.10/dist-packages (from pyproj<3.7.0,>=1.9.3->basemap) (2023.11.17)
Requirement already satisfied: six>=1.5 in /usr/local/lib/python3.10/dist-packages (from python-dateutil>=2.7->matplotlib<3.9,>=1.5->basemap) (1.16.0)
Installing collected packages: basemap-data, basemap
Successfully installed basemap-1.4.0 basemap-data-1.3.2

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Gender Distribution



Hospitalization Status Distribution

