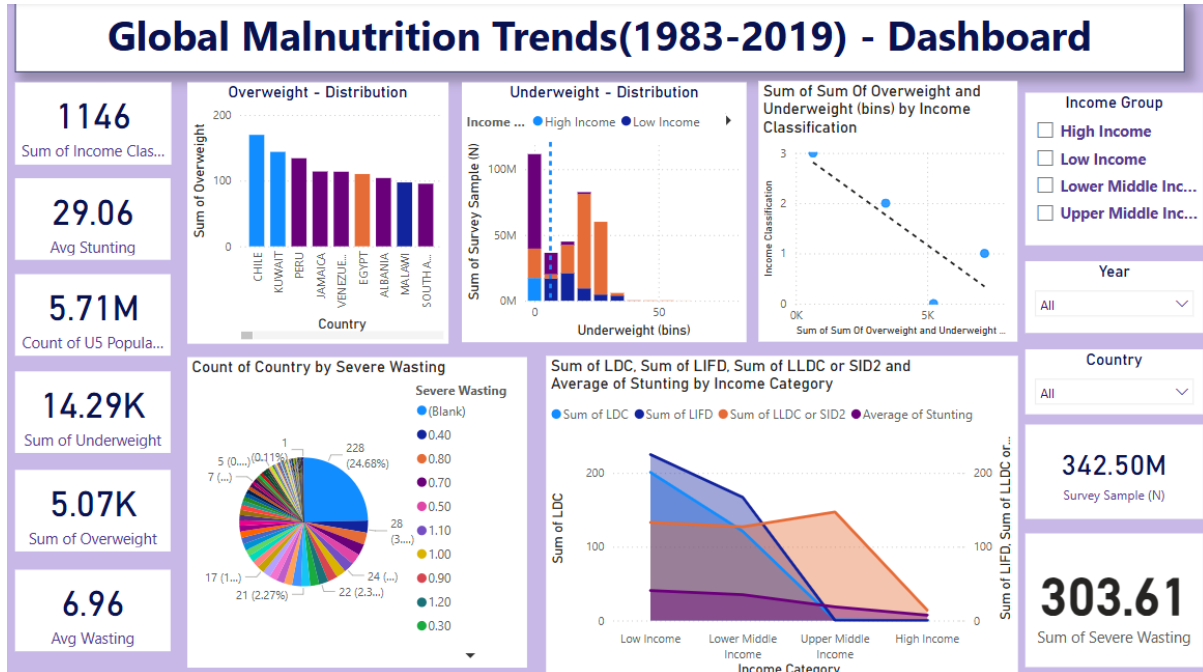


## 1. Main Dashboard:



### Code:

```
import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

import numpy as np

# Sample dummy dataset structure (replace this with your Kaggle dataset)

data = {

    'Country': ['CHILE', 'KUWAIT', 'PERU', 'JAMAICA', 'VENEZUELA', 'EGYPT', 'ALBANIA', 'MALAWI', 'SOUTH AFRICA'],

    'Overweight': [180, 150, 140, 120, 110, 105, 100, 95, 90],

    'Underweight': [5, 10, 15, 8, 6, 11, 12, 14, 9],

    'Income Group': ['High Income', 'High Income', 'Upper Middle Income', 'Upper Middle Income', 'Upper Middle Income',

    'Lower Middle Income', 'Lower Middle Income', 'Low Income', 'Upper Middle Income'],

    'Lower Middle Income', 'Lower Middle Income', 'Low Income', 'Upper Middle Income'],
```

```

'Survey Sample': [50e6, 40e6, 35e6, 25e6, 22e6, 60e6, 30e6, 20e6, 45e6],
'Stunting': [25, 18, 28, 32, 26, 35, 30, 40, 33],
'Severe Wasting': [0.4, 0.8, 0.6, 0.7, 0.5, 1.1, 0.9, 1.2, 0.3],
'LDC': [0, 0, 0, 0, 0, 1, 1, 1, 0],
'LIFD': [0, 0, 0, 0, 0, 1, 1, 1, 0],
'LLDC or SID2': [0, 0, 0, 0, 0, 1, 1, 1, 0]
}

df = pd.DataFrame(data)

# Set up the figure

plt.figure(figsize=(16, 10))

plt.suptitle("Global Malnutrition Trends (1983–2019) - Dashboard", fontsize=20, weight='bold',
y=0.98)

# KPI Panel (simulated with text)

plt.subplot2grid((4, 4), (0, 0), rowspan=4)

plt.axis('off')

kpi_text = (
    "1146\nSum of Income Class\n\n"
    "29.06\nAvg Stunting\n\n"
    "5.71M\nU5 Population\n\n"
    "14.29K\nUnderweight\n\n"
    "5.07K\nOverweight\n\n"
    "6.96\nAvg Wasting\n\n"
    "342.50M\nSurvey Sample\n\n"
    "303.61\nSevere Wasting"
)

plt.text(0, 1, kpi_text, va='top', fontsize=12, fontweight='bold', color='navy')

# Chart 1 - Overweight Distribution

```

```
plt.subplot2grid((4, 4), (0, 1))

sns.barplot(x='Country', y='Overweight', data=df, palette='cool')

plt.title('Overweight - Distribution')

plt.xticks(rotation=45)
```

# Chart 2 - Underweight Distribution by Survey Sample

```
plt.subplot2grid((4, 4), (0, 2))

bins = pd.cut(df['Underweight'], bins=[0,10,20,30,40,50])

df['Underweight Bin'] = bins

uw_grouped = df.groupby(['Underweight Bin', 'Income Group'])['Survey
Sample'].sum().unstack().fillna(0)

uw_grouped.plot(kind='bar', stacked=True, ax=plt.gca())

plt.title('Underweight - Distribution')

plt.ylabel('Survey Sample (N)')

plt.xlabel('Underweight Bins')
```

# Chart 3 - Overweight + Underweight vs Income Group

```
plt.subplot2grid((4, 4), (0, 3))

df['TotalWeightIssues'] = df['Overweight'] + df['Underweight']

agg_trend = df.groupby('Income Group')['TotalWeightIssues'].sum().sort_values()

sns.regplot(x=agg_trend.values, y=np.arange(len(agg_trend)), scatter=True,
line_kws={'linestyle':'--'}, color='blue')

plt.yticks(np.arange(len(agg_trend)), agg_trend.index)

plt.title('Total Malnutrition vs Income')
```

# Chart 4 - Severe Wasting Pie

```
plt.subplot2grid((4, 4), (1, 1))

wasting_counts = df['Severe Wasting'].round(1).value_counts()

wasting_counts.plot.pie(autopct='%1.1f%%', ax=plt.gca(), textprops={'fontsize': 8})

plt.ylabel('')
```

```

plt.title('Count of Countries by Severe Wasting')

# Chart 5 - Stunting, LDCs, LIFD, LLDC or SID2 by Income
plt.subplot2grid((4, 4), (1, 2), colspan=2, rowspan=2)

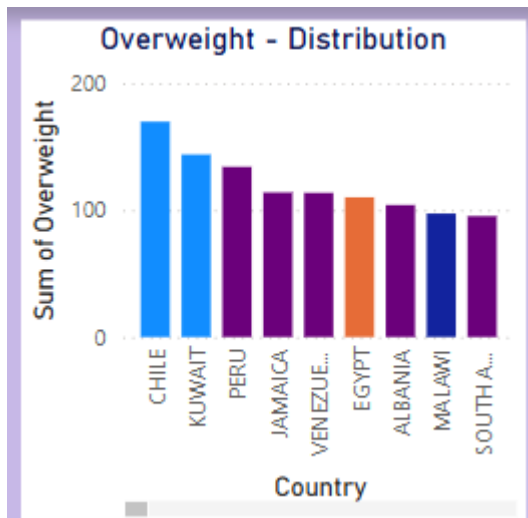
agg = df.groupby('Income Group').agg({
    'LDC': 'sum',
    'LIFD': 'sum',
    'LLDC or SID2': 'sum',
    'Stunting': 'mean'
}).reset_index()

# Area Plot
plt.stackplot(agg['Income Group'],
              agg['LDC'], agg['LIFD'], agg['LLDC or SID2'], agg['Stunting'],
              labels=['LDC', 'LIFD', 'LLDC/SID2', 'Stunting'], alpha=0.6)
plt.legend(loc='upper right')
plt.title('LDC, LIFD, LLDC vs Stunting by Income')

plt.tight_layout(rect=[0.01, 0.01, 1, 0.95])
plt.show()

```

## 2. Overweight by Country:



### Code:

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns

# Load your dataset
df = pd.read_csv("global_malnutrition.csv")

# Aggregate overweight values by country
overweight_data =
df.groupby('Country')['Overweight'].sum().sort_values(ascending=False).head(10)

# Plot
plt.figure(figsize=(8, 5))

sns.barplot(x=overweight_data.index, y=overweight_data.values, palette='cool')

plt.xticks(rotation=45)

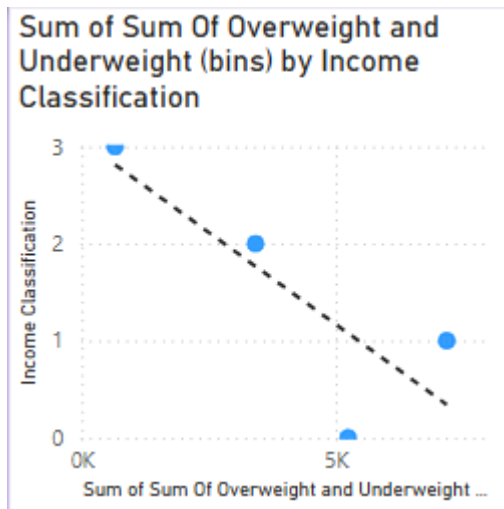
plt.ylabel('Sum of Overweight')

plt.title('Overweight - Distribution by Country')

plt.tight_layout()

plt.show()
```

### 3. Sum Of Overweight & Underweight by Income Group:



#### Code:

```
# Combine Overweight + Underweight and calculate by Income Classification
df['TotalMalnutrition'] = df['Overweight'] + df['Underweight']

mal_by_income = df.groupby('Income Classification')['TotalMalnutrition'].sum().reset_index()

# Map classification to numeric (for plotting trend)
income_map = {'Low Income': 3, 'Lower Middle Income': 2, 'Upper Middle Income': 1, 'High Income': 0}

mal_by_income['ClassificationCode'] = mal_by_income['Income Classification'].map(income_map)

# Plot
plt.figure(figsize=(6, 5))

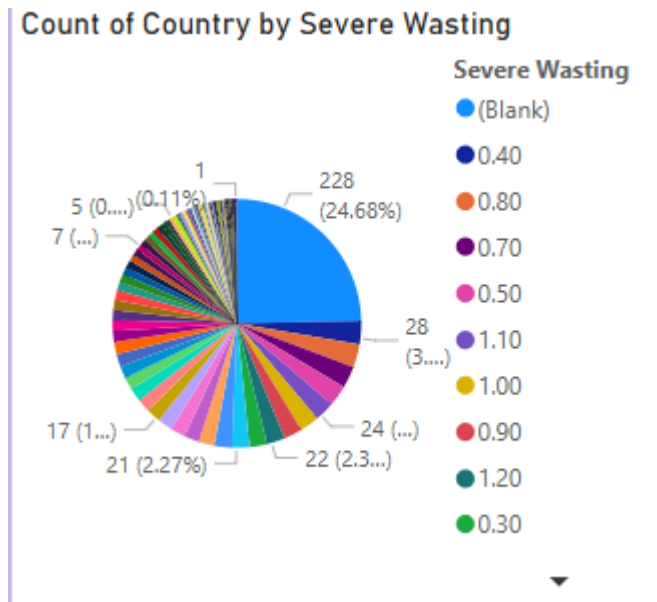
sns.regplot(x='TotalMalnutrition', y='ClassificationCode', data=mal_by_income, scatter=True,
marker='o', color='blue', line_kws={"linestyle": "--"})

plt.xlabel('Sum of Overweight + Underweight')
plt.ylabel('Income Classification (Higher = Poorer)')
plt.title('Malnutrition vs Income Classification')
```

```
plt.tight_layout()
```

```
plt.show()
```

#### 4. Count of country by Severe Wasting:



#### Code:

```
# Count of countries by Severe Wasting rounded value
```

```
df['Severe_Wasting_Rounded'] = df['Severe Wasting'].round(2)
```

```
count_wasting = df.groupby('Severe_Wasting_Rounded')['Country'].nunique()
```

```
# Plot
```

```
plt.figure(figsize=(7, 7))
```

```
count_wasting.plot(kind='pie', autopct='%1.1f%%', startangle=90, colormap='Pastel1')
```

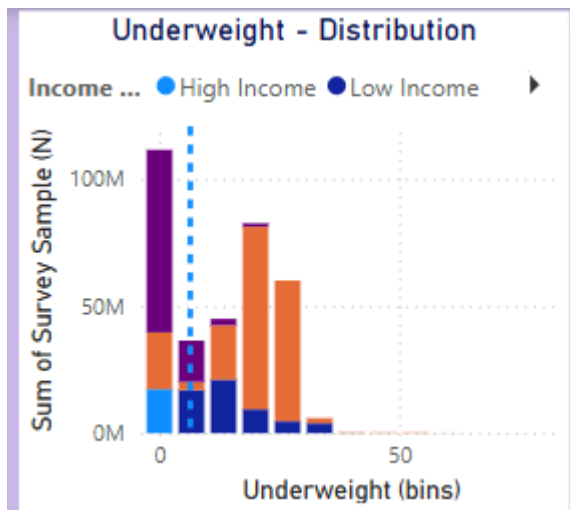
```
plt.title('Count of Countries by Severe Wasting')
```

```
plt.ylabel('')
```

```
plt.tight_layout()
```

```
plt.show()
```

#### 5. Sum of Survey Sample(N) Vs Underweight:



### Code:

```
import pandas as pd

import matplotlib.pyplot as plt

import seaborn as sns

# Load your dataset

df = pd.read_csv("global_malnutrition.csv")

# Aggregate overweight values by country

overweight_data =
df.groupby('Country')['Overweight'].sum().sort_values(ascending=False).head(10)

# Plot

plt.figure(figsize=(8, 5))

sns.barplot(x=overweight_data.index, y=overweight_data.values, palette='cool')

plt.xticks(rotation=45)

plt.ylabel('Sum of Overweight')

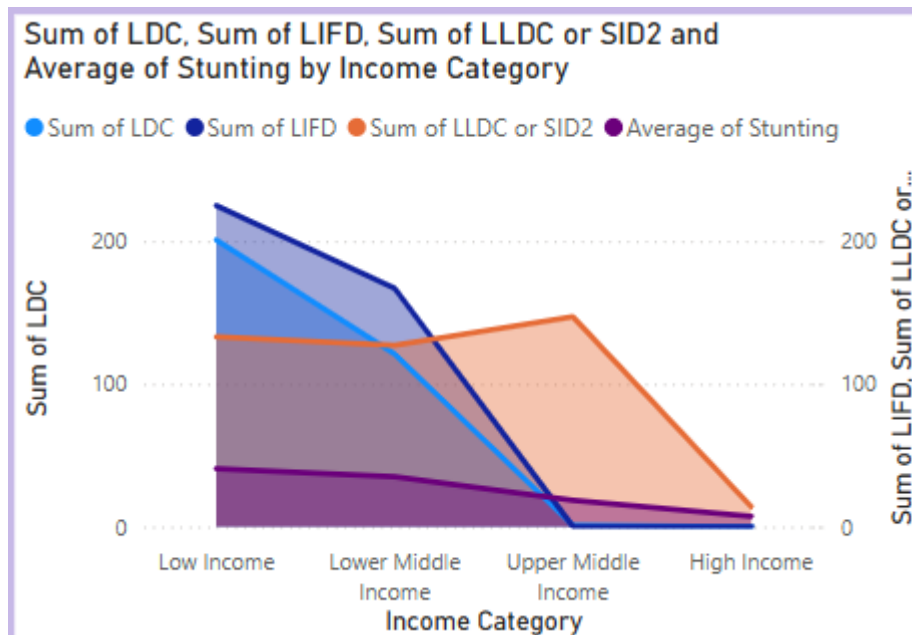
plt.title('Overweight - Distribution by Country')

plt.tight_layout()
```



```
plt.show()
```

## 6. Sum of LDC, Sum of LIFD, Sum of LLDC or SID2 and Avg of Stunting by Income Category:



### Code:

```
# Group values by income
```

```
grouped = df.groupby('Income Group').agg({
```

```
    'LDC': 'sum',
```

```
    'LIFD': 'sum',
```

```
    'LLDC or SID2': 'sum',
```

```
    'Stunting': 'mean'
```

```
}).reset_index()
```

```
# Plot area chart
```

```
plt.stackplot(grouped['Income Group'],
```

```
              grouped['LDC'], grouped['LIFD'], grouped['LLDC or SID2'], grouped['Stunting'],
```

```
              labels=['LDC', 'LIFD', 'LLDC or SID2', 'Avg Stunting'],
```

```
colors=['#4F81BD', '#C0504D', '#9BBB59', '#8064A2'])
```

```
plt.legend(loc='upper right')
```

```
plt.title('Malnutrition by Income Category')
```

```
plt.xticks(rotation=45)
```

```
plt.ylabel('Sum / Avg Value')
```

```
plt.tight_layout()
```

```
plt.show()
```

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