Summary Report

This is a summary report for the Heart Attack Analysis & Prediction Dataset.

Dataset Description

- Age : Age of the patient
- Sex : Sex of the patient
- exang: exercise induced angina (1 = yes; 0 = no)
- ca: number of major vessels (0-3)
- cp : Chest Pain type chest pain type
  - Value 1: typical angina
  - Value 2: atypical angina
  - Value 3: non-anginal pain
  - Value 4: asymptomatic
- trtbps : resting blood pressure (in mm Hg)
- chol : cholestoral in mg/dl fetched via BMI sensor
- fbs : (fasting blood sugar > 120 mg/dl) (1 = true; 0 = false)
- rest_ecg : resting electrocardiographic results
  - Value 0: normal
  - Value 1: having ST-T wave abnormality (T wave inversions and/or ST elevation or depression of > 0.05 mV)
  - Value 2: showing probable or definite left ventricular hypertrophy by Estes' criteria
- thalach : maximum heart rate achieved
- target : 0= less chance of heart attack 1= more chance of heart attack

Import Pandas, Matplotlib.pyplot, Polars

In [ ]:
```
import pandas as pd
import matplotlib.pyplot as plt
import polars as pl
```

Generates Summary Statistics for heart.csv

In [ ]:
```
def summary(csv):
    """summary statistics in csv"""
    df = pl.read_csv(csv)
    return df.describe()


summary("heart.csv")
```

Out[ ]:

describe	age	sex	cp	trtbps	chol	fbs	restecg	thalachh	
str	f64	f64	f64	f64	f64	f64	f64	f64	
"mean"	54.366336633663366	0.6831683168316832	0.966996699669967	131.62376237623764	246.26402640264027	0.1485148514851485	0.528052805280528	149.64686468646866	0.3267
"std"	9.082100989837857	0.4660108233396237	1.0320524894832988	17.5381428135171	51.83075098793004	0.3561978749279764	0.525859596359298	22.905161114914094	0.4697
"min"	29	0.0	0.0	94	126	0.0	0.0	71	
"max"	77	1	3	200	564	1	2	202	
"median"	55	1	1	130	240	0.0	1	153	

Generate Histogram for Resting Blood Pressure Column

In [ ]:
```
def histogram_blood_pressure(csv):
    """generate example visualization of the heart dataset"""
    pd.set_option("display.max_columns", None)
    polars_df = pl.read_csv(csv)
    plt.figure(figsize=(10, 6))
    plt.hist(polars_df["trtbps"], bins=20, edgecolor="black")
    plt.title("Resting Blood Pressure Distribution")
    plt.xlabel("Resting Blood Pressure")
    plt.ylabel("Frequency")
    plt.show()


histogram_blood_pressure("heart.csv")
```