**Logo

Description automatically generated**

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**San Francisco Bay University**

**CS483L - Artificial Intelligence & Machine Learning Lab**

**2022 Summer Quiz#2**

**Instruction:**

1. **Put your answer right after each question in the answer sheet**
2. Write a program to implement Bootstrapping algorithm to find the median number in the given dataset shown in file “Bootstrapping example”

*\*Notice that it is suggested to create 10 new sets randomly*

**Code:**

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| #1. Write a program to implement Bootstrapping algorithm to find the median number in the given dataset shown in file “Bootstrapping example”  import pandas as pd  import numpy as np  import random  import statistics  import matplotlib.pyplot as plt; plt.rcdefaults()  Origional\_Data = [12, 99, 45, 78, 34]  bstrap\_median =[]  frequency = []    for i in range(1500):  # taking 1500 sample     bstrap = np.random.choice(Origional\_Data, size=5)     bstrap\_median.append(np.median(bstrap))    median\_values, freq = np.unique(bstrap\_median, return\_counts = True)  print(median\_values, freq)  plt.bar( median\_values,freq, align='center')  plt.xticks(median\_values)  plt.ylabel('Frequency')  plt.xlabel('Median')  plt.title('Bootsrapping Method')  plt.show() |

**Output:**

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