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import numpy as np

# 1. Define two custom numpy arrays A and B and stack them vertically and
horizontally.
A = np.array([1, 6, 3, 9, 87])
B = np.array([4, 5, 6, 10, 1])

# Stack A and B vertically
stacked_vertically = np.vstack((A, B))

# Stack A and B horizontally
stacked_horizontally = np.hstack((A, B))

# 2. Find common elements between A and B (Intersection of two sets).
common_elements = np.intersect1d(A, B)

# 3. Extract numbers from A that are within a specific range (between 5
and 10).
range_mask = (A >= 5) & (A <= 10)
numbers_in_range = A[range_mask]

# 4. Filter the rows of iris_2d with petallength > 1.5 and sepallength <
5.0
url =
'https://archive.ics.uci.edu/ml/machine-learning-databases/iris/iris.data'
iris_2d = np.genfromtxt(url, delimiter=',', dtype='float', usecols=[0, 1,
2, 3])

filtered_rows = iris_2d[(iris_2d[:, 2] > 1.5) & (iris_2d[:, 0] < 5.0)]

print("Stacked Vertically:\n", stacked_vertically)
print("Stacked Horizontally:\n", stacked_horizontally)
print("Common Elements:", common_elements)
print("Numbers in Range:", numbers_in_range)
print("Filtered Rows (petallength > 1.5 and sepallength < 5.0):\n",
filtered_rows)
```

```
import pandas as pd

df =
pd.read_csv('https://raw.githubusercontent.com/selva86/datasets/master/Cars93_miss.csv')
result = df.iloc[::20, :][['Manufacturer', 'Model', 'Type']]
print(result)
```

```
import pandas as pd

df =
pd.read_csv('https://raw.githubusercontent.com/selva86/datasets/master/Cars93_miss.csv')
df['Min.Price'].fillna(df['Min.Price'].mean(), inplace=True)
df['Max.Price'].fillna(df['Max.Price'].mean(), inplace=True)
print(df)
```

```
import pandas as pd
import numpy as np

df = pd.DataFrame(np.random.randint(10, 40, 60).reshape(-1, 4))

# Filter rows with row sum > 100
filtered_rows = df[df.sum(axis=1) > 100]
print(filtered_rows)
```