NAME-JAYANTIKA KARNA
ROLL NO- 229
PRN- 202201090146

EDS ASSIGNMENT 3

```
import csv
f1=open("/content/sample_data/GRADES.csv","r")
f2=open("/content/sample_data/PLACEMENTS.csv","r")
f3=open("/content/sample_data/STUDENTDETAILS.csv","r")

import numpy as np

# Define the datasets
core_data = {
    201: {'CORE': 'AB', 'PSYCHOLOGY': 'DD', 'ECONOMICS': 'CC'},
    202: {'CORE': 'BB', 'PSYCHOLOGY': 'BC', 'ECONOMICS': 'AB'},
    203: {'CORE': 'BC', 'PSYCHOLOGY': 'EE', 'ECONOMICS': 'EE'},
    204: {'CORE': 'AA', 'PSYCHOLOGY': 'AB', 'ECONOMICS': 'BC'},
    205: {'CORE': 'DD', 'PSYCHOLOGY': 'CC', 'ECONOMICS': 'DD'},
    206: {'CORE': 'CC', 'PSYCHOLOGY': 'DD', 'ECONOMICS': 'AB'},
    207: {'CORE': 'AB', 'PSYCHOLOGY': 'AA', 'ECONOMICS': 'BB'},
    208: {'CORE': 'EE', 'PSYCHOLOGY': 'BC', 'ECONOMICS': 'CC'},
    209: {'CORE': 'BC', 'PSYCHOLOGY': 'BB', 'ECONOMICS': 'AA'},
    210: {'CORE': 'DD', 'PSYCHOLOGY': 'AB', 'ECONOMICS': 'DD'}
}

salary_data = {
    201: {'COMPANY NAME': 'LG', 'SALARY': 1000000},
    202: {'COMPANY NAME': 'PANASONIC', 'SALARY': 2000000},
    203: {'COMPANY NAME': 'HITACHI', 'SALARY': 1500000},
    204: {'COMPANY NAME': 'WOLKSWAGEN', 'SALARY': 3500000},
    205: {'COMPANY NAME': 'TATA', 'SALARY': 4000000},
    206: {'COMPANY NAME': 'YESBANK', 'SALARY': 100000},
    207: {'COMPANY NAME': 'UNILIVER INDIA', 'SALARY': 2000000},
    208: {'COMPANY NAME': 'INFOSYS', 'SALARY': 2500000},
    209: {'COMPANY NAME': 'DEILLOITE', 'SALARY': 1700000},
    210: {'COMPANY NAME': 'RELIANCE', 'SALARY': 1900000}
}

customer_data = {
    201: {'NAME': 'Shreya', 'GENDER': 'F', 'BATCH': 'B1'},
    202: {'NAME': 'Mohan', 'GENDER': 'F', 'BATCH': 'B2'},
    203: {'NAME': 'Tom', 'GENDER': 'F', 'BATCH': 'B3'},
    204: {'NAME': 'Palak', 'GENDER': 'F', 'BATCH': 'B4'},
    205: {'NAME': 'Shivani', 'GENDER': 'M', 'BATCH': 'B1'},
```

```
    206: {'NAME': 'Sofia', 'GENDER': 'M', 'BATCH': 'B2'},
    207: {'NAME': 'Nikhil', 'GENDER': 'M', 'BATCH': 'B3'},
    208: {'NAME': 'Soham', 'GENDER': 'M', 'BATCH': 'B4'},
    209: {'NAME': 'Piyush', 'GENDER': 'M', 'BATCH': 'B2'},
    210: {'NAME': 'Ajay', 'GENDER': 'M', 'BATCH': 'B4'}
}

# Perform matrix operations
# Example: Accessing the 'CORE' value for ROLL NO 201
core_value = core_data[201]['CORE']
print("CORE value for ROLL NO 201:", core_value)

# Horizontal stacking of Numpy arrays
core_array = np.array(list(core_data.values()))
salary_array = np.array(list(salary_data.values()))
customer_array = np.array(list(customer_data.values()))

horizontal_stack = np.hstack((core_array, salary_array,
customer_array))
print("Horizontal stacking of arrays:")
print(horizontal_stack)

# Vertical stacking of Numpy arrays
vertical_stack = np.vstack((core_array, salary_array, customer_array))
print("Vertical stacking of arrays:")
print(vertical_stack)

# Custom sequence generation
sequence = np.arange(1, 11, 2)
print("Custom sequence generation:")
print(sequence)

# Arithmetic and Statistical Operations
numbers = np.array([1, 2, 3, 4, 5])
print("Sum:", np.sum(numbers))
print("Mean:", np.mean(numbers))
print("Standard Deviation:", np.std(numbers))

# Mathematical Operations
result = np.sqrt(numbers)
print("Square root:", result)

# Bitwise Operators
binary1 = np.array([1, 1, 0, 0], dtype=bool)
binary2 = np.array([1, 0, 1, 0], dtype=bool)

bitwise_and = np.bitwise_and(binary1, binary2)
bitwise_or = np.bitwise_or(binary1, binary2)
```

```
print("Bitwise AND:", bitwise_and)
print("Bitwise OR:", bitwise_or)

# Copying and viewing arrays
arr = np.array([1, 2, 3, 4, 5])
arr_copy = arr.copy()

arr[0] = 10

print("Original Array:", arr)
print("Copied Array:", arr_copy)

# Data Stacking, Searching, Sorting, Counting, Broadcasting
# Perform desired operations using the provided datasets
```

```
{'COMPANY NAME': 'WOLKSWAGEN', 'SALARY': 3500000}
{'COMPANY NAME': 'TATA', 'SALARY': 4000000}
{'COMPANY NAME': 'YESBANK', 'SALARY': 100000}
{'COMPANY NAME': 'UNILIVER INDIA', 'SALARY': 2000000}
{'COMPANY NAME': 'INFOSYS', 'SALARY': 2500000}
{'COMPANY NAME': 'DEILLOITE', 'SALARY': 1700000}
{'COMPANY NAME': 'RELIANCE', 'SALARY': 1900000}
{'NAME': 'Shreya', 'GENDER': 'F', 'BATCH': 'B1'}
{'NAME': 'Mohan', 'GENDER': 'F', 'BATCH': 'B2'}
{'NAME': 'Tom', 'GENDER': 'F', 'BATCH': 'B3'}
{'NAME': 'Palak', 'GENDER': 'F', 'BATCH': 'B4'}
{'NAME': 'Shivani', 'GENDER': 'M', 'BATCH': 'B1'}
{'NAME': 'Sofia', 'GENDER': 'M', 'BATCH': 'B2'}
{'NAME': 'Nikhil', 'GENDER': 'M', 'BATCH': 'B3'}
{'NAME': 'Soham', 'GENDER': 'M', 'BATCH': 'B4'}
{'NAME': 'Piyush', 'GENDER': 'M', 'BATCH': 'B2'}
{'NAME': 'Ajay', 'GENDER': 'M', 'BATCH': 'B4'}]
Vertical stacking of arrays:
[[{'CORE': 'AB', 'PSYCHOLOGY': 'DD', 'ECONOMICS': 'CC'}
  {'CORE': 'BB', 'PSYCHOLOGY': 'BC', 'ECONOMICS': 'AB'}
  {'CORE': 'BC', 'PSYCHOLOGY': 'EE', 'ECONOMICS': 'EE'}
  {'CORE': 'AA', 'PSYCHOLOGY': 'AB', 'ECONOMICS': 'BC'}
  {'CORE': 'DD', 'PSYCHOLOGY': 'CC', 'ECONOMICS': 'DD'}
  {'CORE': 'CC', 'PSYCHOLOGY': 'DD', 'ECONOMICS': 'AB'}
  {'CORE': 'AB', 'PSYCHOLOGY': 'AA', 'ECONOMICS': 'BB'}
  {'CORE': 'EE', 'PSYCHOLOGY': 'BC', 'ECONOMICS': 'CC'}
  {'CORE': 'BC', 'PSYCHOLOGY': 'BB', 'ECONOMICS': 'AA'}
  {'CORE': 'DD', 'PSYCHOLOGY': 'AB', 'ECONOMICS': 'DD'}]
```


Untitled4.ipynb
File Edit View Insert Runtime Tools Help All changes saved
Comment
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RAM
Disk
[{'COMPANY NAME': 'LG', 'SALARY': 1000000}
{'COMPANY NAME': 'PANASONIC', 'SALARY': 2000000}
{'COMPANY NAME': 'HITACHI', 'SALARY': 1500000}
{'COMPANY NAME': 'WOLKSWAGEN', 'SALARY': 3500000}
{'COMPANY NAME': 'TATA', 'SALARY': 4000000}
{'COMPANY NAME': 'YESBANK', 'SALARY': 100000}
{'COMPANY NAME': 'UNILIVER INDIA', 'SALARY': 2000000}
{'COMPANY NAME': 'INFOSYS', 'SALARY': 2500000}
{'COMPANY NAME': 'DEILLOITE', 'SALARY': 1700000}
{'COMPANY NAME': 'RELIANCE', 'SALARY': 1900000}]
[{'NAME': 'Shreya', 'GENDER': 'F', 'BATCH': 'B1'}
{'NAME': 'Mohan', 'GENDER': 'F', 'BATCH': 'B2'}
{'NAME': 'Tom', 'GENDER': 'F', 'BATCH': 'B3'}
{'NAME': 'Palak', 'GENDER': 'F', 'BATCH': 'B4'}
{'NAME': 'Shivani', 'GENDER': 'M', 'BATCH': 'B1'}
{'NAME': 'Sofia', 'GENDER': 'M', 'BATCH': 'B2'}
{'NAME': 'Nikhil', 'GENDER': 'M', 'BATCH': 'B3'}
{'NAME': 'Soham', 'GENDER': 'M', 'BATCH': 'B4'}
{'NAME': 'Piyush', 'GENDER': 'M', 'BATCH': 'B2'}
{'NAME': 'Ajay', 'GENDER': 'M', 'BATCH': 'B4'}]]
Custom sequence generation:
[1 3 5 7 9]
Sum: 15
Mean: 3.0
Standard Deviation: 1.4142135623730951
Square root: [1. 1.41421356 1.73205081 2. 2.23606798]
Bitwise AND: [True False False False]
Bitwise OR: [True True True False]
Original Array: [10 2 3 4 5]
Copied Array: [1 2 3 4 5]
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