Experiment No. # 6
MULTIDIMENSIONAL VECTORS

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Schedule: M 7:00 – 10:00
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Objective
To apply and understand the essence, concepts, principles, and applications of special vector spaces

Algorithm
1. Type the main title of this activity as "Multidimensional Vectors"
2. On your GitHub, create a repository name Linear Algebra 58013
3. On your Colab, name your activity as Python Exercise 6.ipynb and save a copy to your GitHub repository

Coding Activity 6

Accessing a multidimensional list:

```
# Python program to demonstrate printing
# of complete multidimensional list
a = [[2, 4, 6, 8, 10], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]
print(a)
```

Accessing with the help of loop.

```
# Python program to demonstrate printing
# of complete multidimensional list row
# by row.
a = [[2, 4, 6, 8, 10], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]
for record in a:
    print(record)
```

Accessing using square brackets

```
# Python program to demonstrate that we
# can access multidimensional list using
# square brackets
a = [ [2, 4, 6, 8 ],
    [ 1, 3, 5, 7 ],
    [ 8, 6, 4, 2 ],
    [ 7, 5, 3, 1 ] ]

for i in range(len(a)) :
    for j in range(len(a[i])) :
        print(a[i][j], end=" ")
    print()
```

Multidimensional List

```python
[3]
    # Python program to demonstrate printing
    # of complete multidimensional list
    a = [[2, 4, 6, 8, 10], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]
    print(a)
```

```
[[2, 4, 6, 8, 10], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]
```

Accessing With The Help of Loop

```python
[4]  # Python program to demonstrate printing
     # of complete multidimensional list row
     # by row.
     a = [[2, 4, 6, 8, 10], [3, 6, 9, 12, 15], [4, 8, 12, 16, 20]]
     for record in a:
         print(record)
```

```
[2, 4, 6, 8, 10]
[3, 6, 9, 12, 15]
[4, 8, 12, 16, 20]
```

Accessing Using Square Brackets

```python
[2]  # Python program to demonstrate that we
     # can access multidimensional list using
     # square brackets
     a = [ [2, 4, 6, 8 ],
         [ 1, 3, 5, 7 ],
         [ 8, 6, 4, 2 ],
         [ 7, 5, 3, 1 ] ]

     for i in range(len(a)) :
         for j in range(len(a[i])) :
             print(a[i][j], end=" ")
         print()
```

```
2 4 6 8
1 3 5 7
8 6 4 2
7 5 3 1
```

GitHub Permalink:
https://github.com/MNLLEMM/58013-Linear-
Algebra/blob/24cc6f67189142b974e693fab2f505fd8d20666e/Python_Exercise_6.ipynb