



Lab 6

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Batch: BSCS 6th semester

Subject: AI Lab

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Task 1

```
Lab6alltasks.py ×
1 import numpy as np
2 arr_2d = np.array([[0.5, 0.0, 1.2], [3.4, 0.0, -2.1]])
3 bool_arr = arr_2d.astype(bool)
4 print("Task 1 - Boolean Array:\n", bool_arr)
```

Output

```
"C:\Users\CS COMPUTERS\PyCharmMisc
Task 1 - Boolean Array:
[[ True False  True]
 [ True False  True]]
```

Task 2

```
arr = np.array([10, 20, 30, 40])
new_arr = np.insert(arr, obj: 2, values: 55)
print("\nTask 2 - Updated Array:", new_arr)
```

Output

```
"C:\Users\CS COMPUTERS\PyCharmMiscProject
Task 2 - Updated Array: [10 20 55 30 40]

Process finished with exit code 0
```

Task 3

```
sequence = np.arange(0, 101, 2)
print("\nTask 3 - Sequence:", sequence)
```

Output

```
Task 3 - Sequence: [ 0  2  4  6  8 10 12 14 16 18 20 22 24 26 28 30 32 34
 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70
 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100]
```

Task 4

```
mat1 = np.array([[1, 2], [3, 4]])
mat2 = np.array([[5, 6], [7, 8]])
result_matrix = np.dot(mat1, mat2)
print("\nTask 4 - Matrix Multiplication:\n", result_matrix)
```

Output

```
Task 4 - Matrix Multiplication:
[[19 22]
 [43 50]]

Process finished with exit code 0
```

Task 5

```
arr_1d = np.array([5, 10, 15, 20, 25])  
num_to_check = 15  
exists = num_to_check in arr_1d  
print("\nTask 5 - Number Exists?", exists)
```

Output

```
"C:\Users\CS COMPUTERS\PyCharmMiscProject"
```

```
Task 5 - Number Exists? True
```

```
Process finished with exit code 0
```