

## WEEK 1

### Question 1:

#### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/team_contribution_multiplier.py"
Team Member Contributions: [1, 2, 3, 4]
Team Performance: [24, 12, 8, 6]
```

#### Case 2

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/team_contribution_multiplier.py"
Team Members Contributions: [-1, 1, 0, -3, 3]
Team Members Performance: [0, 0, 9, 0, 0]
```

### Question 2:

#### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/password_recovery_window.py"
Log: ADOBECODEBANC, Pattern: ABC
Shortest Pattern Window Detected: BANC
```

#### Case 2

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/password_recovery_window.py"
Log: a, Pattern: a
Shortest Pattern Window Detected: a
```

#### Case 3

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/password_recovery_window.py"
Log: a, Pattern: aa
Shortest Pattern Window Detected:
```

### Question 3:

#### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/balanced_performance_score.py"
Team A Score: [1, 3]
Team B score [2]
Median of all the scores: 2.0
```

#### Case 2

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/balanced_performance_score.py"
Team A Score: [1, 2]
Team B score [3, 4]
Median of all the scores: 2.5
```

### Question 4:

#### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/the_deep_storage_inventory_search.py"
Grids: [[1, 5, 9], [10, 11, 13], [12, 13, 15]]
Detected Element at k: 13
```

### Question 5:

#### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: (())()
Fixes: ['(())()', '()()()']
```

#### Case 2

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: (a())()
Fixes: ['(a())()', '(a)()()']
```

### Case 3

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: )(
Fixes: ['']
```

### Case 4

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: ()
Fixes: ['()']
```

### Case 5

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: abc
Fixes: ['abc']
```

### Case 6

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/fix_the_broken_expression.py"
Broken Expression: (((
Fixes: ['']
```

## Question 6:

### Case 1

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/tower_of_hanoi_algorithm.py"
Disks: 2
To rod: C, Aux rod: B, From rod: A
Steps:
Disk 1 moved from A to B
Disk 2 moved from A to C
Disk 1 moved from B to C
```

## Case 2

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/tower_of_hanoi_algorithm.py"
Disks: 3
To rod: C, Aux rod: B, From rod: A
Steps:
Disk 1 moved from A to C
Disk 2 moved from A to B
Disk 1 moved from C to B
Disk 3 moved from A to C
Disk 1 moved from B to A
Disk 2 moved from B to C
Disk 1 moved from A to C
```

## Case 3

```
PS E:\NED University\Github\winter-activity-Logic-Forge-CIS-Community\Week 1> & C:/Users/Lenovo/AppData/Local/Programs/Python/Python313/python
.exe "e:/NED University/Github/winter-activity-Logic-Forge-CIS-Community/Week 1/tower_of_hanoi_algorithm.py"
Disks: 4
To rod: C, Aux rod: B, From rod: A
Steps:
Disk 1 moved from A to B
Disk 2 moved from A to C
Disk 1 moved from B to C
Disk 3 moved from A to B
Disk 1 moved from C to A
Disk 2 moved from C to B
Disk 1 moved from A to B
Disk 4 moved from A to C
Disk 1 moved from B to C
Disk 2 moved from B to A
Disk 1 moved from C to A
Disk 3 moved from B to C
Disk 1 moved from A to B
Disk 2 moved from A to C
Disk 1 moved from B to C
```