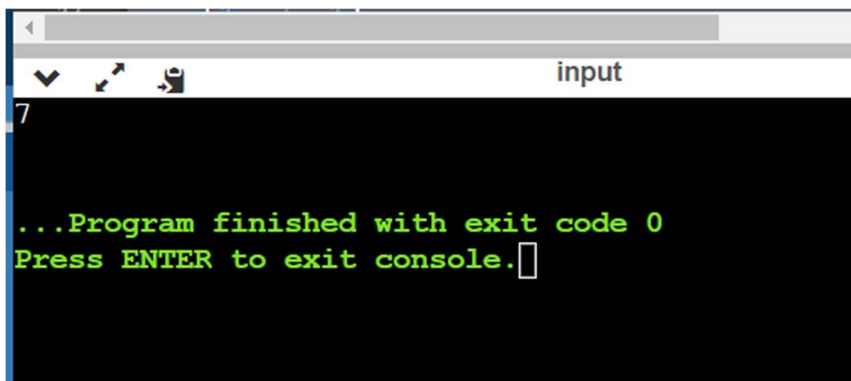**Problem 1 :** Minimum Path Sum in A Grid

```python
def min_path_sum(grid):
    if not grid:
        return 0
    rows, cols = len(grid), len(grid[0])
    dp = [[0 for _ in range(cols)] for _ in range(rows)]
    dp[0][0] = grid[0][0]
    for c in range(1, cols):
        dp[0][c] = dp[0][c - 1] + grid[0][c]
    for r in range(1, rows):
        dp[r][0] = dp[r - 1][0] + grid[r][0]
    for r in range(1, rows):
        for c in range(1, cols):
            dp[r][c] = min(dp[r - 1][c], dp[r][c - 1]) + grid[r][c]
    return dp[rows - 1][cols - 1]

grid = [
    [1, 3, 1],
    [1, 5, 1],
    [4, 2, 1]
]
print(min_path_sum(grid))
```