1. Python Program for Find reminder of array multiplication divided by n
2. Python Program to check if given array is Monotonic
3. Python program to interchange first and last elements in a list
4. Python program to swap two elements in a list
5. write a program to find length of list
6. write a program to check if element exists in list
7. write a program to clear a list in Python
8. write a program to Reversing a List
9. write a program to find sum of elements in list
10. write a program to Multiply all numbers in the list

Solution

Here are Python programs for each of the tasks you’ve listed:

### 1. Python Program to Find the Remainder of Array Multiplication Divided by `n`

```python

Def remainder\_of\_product(arr, n):

Product = 1

For num in arr:

Product \*= num

Return product % n

# Example usage:

Arr = [3, 4, 2]

N = 5

Print(remainder\_of\_product(arr, n)) # Output: 4

```

### 2. Python Program to Check if Given Array is Monotonic

```python

Def is\_monotonic(arr):

Return all(arr[i] <= arr[I + 1] for I in range(len(arr) – 1)) or \

All(arr[i] >= arr[I + 1] for I in range(len(arr) – 1))

# Example usage:

Arr = [1, 2, 2, 3]

Print(is\_monotonic(arr)) # Output: True

```

### 3. Python Program to Interchange First and Last Elements in a List

```python

Def interchange\_first\_last(arr):

If len(arr) > 1:

Arr[0], arr[-1] = arr[-1], arr[0]

Return arr

# Example usage:

Arr = [1, 2, 3, 4]

Print(interchange\_first\_last(arr)) # Output: [4, 2, 3, 1]

```

### 4. Python Program to Swap Two Elements in a List

```python

Def swap\_elements(arr, I, j):

Arr[i], arr[j] = arr[j], arr[i]

Return arr

# Example usage:

Arr = [1, 2, 3, 4]

Print(swap\_elements(arr, 1, 3)) # Output: [1, 4, 3, 2]

```

### 5. Python Program to Find Length of List

```python

Def length\_of\_list(arr):

Return len(arr)

# Example usage:

Arr = [1, 2, 3, 4]

Print(length\_of\_list(arr)) # Output: 4

```

### 6. Python Program to Check if Element Exists in List

```python

Def element\_exists(arr, element):

Return element in arr

# Example usage:

Arr = [1, 2, 3, 4]

Print(element\_exists(arr, 3)) # Output: True

```

### 7. Python Program to Clear a List in Python

```python

Def clear\_list(arr):

Arr.clear()

Return arr

# Example usage:

Arr = [1, 2, 3, 4]

Print(clear\_list(arr)) # Output: []

```

### 8. Python Program to Reverse a List

```python

Def reverse\_list(arr):

Return arr[::-1]

# Example usage:

Arr = [1, 2, 3, 4]

Print(reverse\_list(arr)) # Output: [4, 3, 2, 1]

```

### 9. Python Program to Find Sum of Elements in List

```python

Def sum\_of\_list(arr):

Return sum(arr)

# Example usage:

Arr = [1, 2, 3, 4]

Print(sum\_of\_list(arr)) # Output: 10

```

### 10. Python Program to Multiply All Numbers in the List

```python

Def multiply\_list(arr):

Product = 1

For num in arr:

Product \*= num

Return product

# Example usage:

Arr = [1, 2, 3, 4]

Print(multiply\_list(arr)) # Output: 24

```