ICS4U Unit 1 Activity 5 - Non-numeric Comparisions Worksheet

Phone Pyae Thet Khine
Teacher NEDA
ICS4U
4th Feb 2022

Q1) Differentiate 1D array and 2D array by example.

An one-dimensional array is a single list of similar type elements stored in a computer's memory. But in Python, there can be arrays containing different types of elements. Example of 1D array:

A two-dimensional array can represent two dimensions.

Q2) Write a program to enter integer type data into array and print the values in reverse order.

```python
def enterIntegerAndReverse():
        arr = [] # Declaring a blank array

        # Getting user input with error handling
        while True:
                x = input("Enter an integer (q to quit): ")
                if x == 'q':
                        break
                try:
                        arr.append(int(x))
                except ValueError:
                        print("ValueError. Enter an integer (q to quit): ")
                else:
                        pass

        print(f"{arr} <== Original array.")
        arr.reverse()
        print(f"{arr} <== Reversed array.")
```

Output

```
Enter an integer (q to quit): 1
Enter an integer (q to quit): 2
Enter an integer (q to quit): 3
```

```
Enter an integer (q to quit): 4
Enter an integer (q to quit): 5
Enter an integer (q to quit): q
[1, 2, 3, 4, 5] <== Original array.
[5, 4, 3, 2, 1] <== Reversed array.
```

Q3) Write a program to sum array A elements and array B elements.

```python
def sumTwoArrays():
        # Declaring two arrays with data hard coded
        arrayA = [1, 2, 3, 4, 5]
        arrayB = [5, 4, 3, 2, 1]

        # Variable with value '0' inside to accomodate the sum of two
arrays
        sumAB = 0

        for x in arrayA:
                sumAB += x
        for x in arrayB:
                sumAB += x
        print(f"{arrayA} <== Array 1.")
        print(f"{arrayB} <== Array 2.")
        print(f"{sumAB} <== Sum of Array 1 and Array 2.")
```

Output

```
[1, 2, 3, 4, 5] <== Array 1.
[5, 4, 3, 2, 1] <== Array 2.
30 <== Sum of Array 1 and Array 2.
```

Q4) Write a program that fills arrays P with 20 integers and then print the product of the elements of the array.

```python
def productOfTwoArrays():
        # Random module to fill the array with random integers 1 to 9
inclusive
        import random

        arrayP = []
        # Variable to hold product of the array. Value is '0' because of
product.
        productP = 1

        for i in range(20):
                arrayP.append(random.randint(1, 9))
```

```python
        print(f"{arrayP} <== Array P with 20 integers.")

        for i in arrayP:
                productP *= i

        print(f"{productP} <== Product of all the elements of Array P.")
```

Output

```
[2, 3, 8, 4, 2, 2, 9, 3, 1, 6, 6, 4, 3, 3, 6, 2, 8, 9, 6, 2] <== Array P with
20 integers.
278628139008 <== Product of all the elements of Array P.
```