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// Variable Assignment and Arithmetic
x = 1+3
print “Number x is : “ + x

// List slicing
nums = [10, 20, 30, 40, 50]
print nums[1:4]      // Should print a slice from index 1 up to (but not including) index 4.
print nums[:3]       // Should print a slice from beginning up to index 3.
print nums[2:]       // Should print a slice from index 2 to the end.
print nums[0:5:2]    // Should print a slice from index 0 to 5 with a step of 2.

// List append, remove, size, and pop
nums = [1, 2, 3]
nums.append(4)
print(nums)      // Expected output: [1, 2, 3, 4]
nums.remove(2)
print(nums)      // Expected output: [1, 3, 4]
print(nums.size()) // Expected output: 3.0
last = nums.pop()
print(last)      // Expected output: 4
print(nums)      // Expected output: [1, 3]

// Create a list of numbers.
nums = [10, 20, 30, 40, 50]
print "Initial list: " + nums
print "First element: " + nums[0]       // Expected output: 10
print "Third element: " + nums[2]       // Expected output: 30

// Modify an element in the list by assignment.
nums[1] = 25
print "Modified list: " + nums
print "Modified second element: " + nums[1]  // Expected output: 25


// Create a nested list (matrix).
matrix = [
        [1, 2, 3],
        [4, 5, 6],
        [7, 8, 9]
    ]
print "Matrix: " + matrix
print "Element at matrix[1][2]: " + matrix[1][2]  // Expected output: 6

// For loop
for i in nums
    print i

for i = 1,5
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    print i

// while loop
i = 0
while i < 5
    print "Element at index " + i + ": " + nums[i]
    i += 1

// Class and Function
class Accumulator
    def init(initialSum, initialLimit)
        sum = initialSum
        limit = initialLimit

    def add(val)
        sum += val

    def getSum()
        return sum

    def reachedLimit()
        if sum >= limit
            return true
        else
            return false

def accumulateTest()
    acc = Accumulator(0, 50)
    num = 5
    while not acc.reachedLimit()
        if flag and num < 10
            acc.add(num)
            print "Added " + num + ", sum: " + acc.getSum()
        else
            acc.add(num + 2)
            print "Added " + (num + 2) + ", sum: " + acc.getSum()
        num += 3



// Input Function and If Else statements
print "Grocery List App"
grocery = []     // Initialize an empty grocery list.

choice = input("Choose an action (1: add, 2: show, 3: remove, 4: exit): ")

while choice != "4"
    if choice == "1"
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        // Add an item.
        item = input("Enter the item to add: ")
        grocery.append(item)
        print "Added item: " + item
    else if choice == "2"
        // Show the current list.
                    num = 0
        if grocery.size() > 0
            print "Your grocery list: "
                        for i in grocery
                                    num += 1
                                    print num + ". "+ i
        else
            print "Your list is empty"
    else if choice == "3"
        // Remove an item.
        item = input("Enter the item to remove: ")
        if item in grocery
            grocery.remove(item)
            print "Removed item: " + item
        else
            print item + " not in grocery List"
    else
        print "Invalid choice. Please try again."
    choice = input("Choose an action (1: add, 2: show, 3: remove, 4: exit): ")

print "Goodbye!"
```