**Name: Session:**

**Programming I**

**Lab Exercise 10.9.2024**

Complete the following exercises, submit your documented source code.

1. Write a function def equals(a, b) that checks whether two lists have the same elements in the same order. The function should return a Boolean value.
2. Write a program that produces ten random permutations of the numbers 1 to 10. To generate a random permutation, you need to fill a list with the numbers 1 to 10 so that no two entries of the list have the same contents. You could do it by brute force, by generating random values until you have a value that is not yet in the list. But that is inefficient. Instead, follow this algorithm.

**Make an empty permutation list**

**Make a second list (numbers) and fill it with the numbers 1 to 10.**

**Repeat 10 times**

**Repeat 10 times**

**Pick a random element from the second list.**

**Add it to the permutation list**

**Remove it and append it to the permutation list.**

**Print the permutation list**

**Reset the permutation list**

**Reset the numbers list**

1. Given 5 flavors of ice cream, you are going to make ice cream sundaes out of them using 3 flavors in each sundae. Write a program that lists **all** of the permutations of the flavors. For permutations, order matters (i.e. a Vanilla, Chocolate, Strawberry sundae is different from a Chocolate, Strawberry, Vanilla sundae). This can be calculated using the formula

