**Practical session 6**

*For the practical parts of this lab (implementing programs, running them) please save the Python programs that you create and take screenshots of the execution (evaluation) of your programs. Commit (upload) all source code you create to your code repository.*

**Tasks:**

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| 1. | Assume the following list: **a = [ 66.25, 333, 333, 1, 1234.5 ]**  If you perform the following operations on the list:  a.insert(2, -1)  a.append(333)  What will the list look like?  Now you perform:  a.index(333)  What will the output of this operation be?  Now you perform:  a.remove(333)  What will the list look like?  Now you perform:  a.reverse()    What will the list look like?  Now you perform:  a.sort()  What will the list look like? |
| 2. | Write a short program to create a list of squares for numbers up to 10.  Start with an empty list called squares and append squares of numbers from 0 up to 10. Print the contents of your list. |
| 3. | nums = []  for x in [1,2,3]:  for y in [3,1,4]:  if x != y:  nums.append((x, y))  print(nums)  What is the output from above? |
| 4. | Create a program that will keep track of items for a shopping list.  The program should start with an empty list and keep asking for new items until nothing is entered (no input followed by enter/return key).  The program should then display the full shopping list. |
| 5. | Write a program that will ask the user to enter two short sentences and then:   * Concatenate the two sentences into one long sentence * Split the sentence into a list of words * Sort the words in alphabetical order and print them out * Print the total number of words contained in your list * Create a dictionary that will store each word together with the count of the occurrence of each word in your sentence. * Print each item from the dictionary |