**Pre-Lab**

**Pre Lab Task 1**

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| --- | --- |
| **Code:**  #values = np.random.randn(100)  values = np.random.randint(25,size=100)  plt.plot(values)  plt.title("Random Values Plot")  plt.xlabel("Index")  plt.xlim(0,25)  plt.ylim(-5,25)  plt.ylabel("Values")  plt.show()  **Output:**   |  | | --- | | Figure : Pre-Lab Task 1 Plot |   This image show the plot of 100 random values less than 25. |

**In-Lab**

**In-Lab Task 1**

|  |  |
| --- | --- |
| **Code:**  print("Hello World!\nMy name is Rana Fahad Aman.\nMy Registration is FA20-BCE-021.\nThis is my first AI Lab.")  **Output:**   |  | | --- | | Hello World!  My name is Rana Fahad Aman.  My Registration is FA20-BCE-021.  This is my first AI Lab. | |

**In-Lab Task 2**

**{**This is applicable to the Spyder IDE only.**}**

**In-Lab Task 3**

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| --- | --- |
| **Code:**  x = 1  if x == 1:  print("x is 1")  else:  print("x is not 1")  **Output:**   |  | | --- | | x is 1 | |

**In-Lab Task 4**

**{Numbers}**

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| --- | --- |
| **Code:**  **#1-Integers**  print('Print Value of Integer …')  integer\_us = 7  print(integer\_us)  print ('Class of the interger is')  print(type(integer\_us))  **#2-Float**  print('Print Value of Float …')  float\_us = 7.0  print(float\_us)  myfloat = float(integer\_us)  print(myfloat)  **#3-Convert Float to Integer**  print('Convert Value of Float to Integer ...')  myint= int(7.3)  print(myint)  **Output:**   |  | | --- | | Print Value of Integer ...  7  Class of the interger is  <class 'int'>  Print Value of Float ...  7.0  7.0  Convert Value of Float to Integer...  7 | |

**{Strings }**

|  |  |
| --- | --- |
| **Code:**  mystring = "Hello, World!"  print(mystring)  mystring = "Let's talk about apostrophes..."  print(mystring)  one = 1  two = 2  three = one + two  print(three)  hello= "Hello,"  world = "World!"  helloworld = hello + " " + world  print (helloworld)  a, b = 3, 4  print(a, b)  print(str(one) + str(two) + hello)  **Output:**   |  | | --- | | Hello, World!  Let's talk about apostrophes...  3  Hello, World!  3 4  12Hello, | |

**{Strings }**

|  |  |
| --- | --- |
| **Code:**  mylist = []  mylist.append(1)  mylist.append(2)  mylist.append(3)  print(mylist[0])  print (mylist[-1])  (mylist[1:3])  print(“”)  names = ["John", 3234, 2342, 3323, "Eric", 234, "Jessica",  734978234, "Lois", 2384]  print("Number of names in list: {}".format(len(names)))  new\_names = []  for n in names:  if isinstance(n, str):  new\_names.append(n)  new\_names.sort()  print("Cleaned-up number of names in list: {}".format(len (new\_names)))  for i, n in enumerate (new\_names):  print("{}. {}".format(i+1, n))  **Output:**   |  | | --- | | 1  3  Number of names in list: 10  Cleaned-up number of names in list: 4  1. Eric  2. Jessica  3. John  4. Lois | |

**Post-Lab**

**Post-Lab Task 1**

**for loop**

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| --- | --- |
| **Code:**  iterableList = [1,2,3,4,5]  for variable in iterableList:  print(variable)  **Output:**   |  | | --- | | 1  2  3  4  5 | |

**while loop:**

|  |  |
| --- | --- |
| **Code:**  whileLoopInt = 5  while(whileLoopInt>0):  print(whileLoopInt)  whileLoopInt -=1  **Output:**   |  | | --- | | 5  4  3  2  1 | |

**if condition**

|  |  |
| --- | --- |
| **Code:**  ifCondition = 10  if ifCondition >= 10:  print("The value is greater than or equal to 10.")  else:  print("The value is lesser than 10.")  **Output:**   |  | | --- | | The value is greater than or equal to 10. | |