**SCHOOL OF COMPUTING**

**Programming for Data Science**

**Practical 1 Submission Worksheet (Graded as part of CA3)**

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| **Instructions:**   1. Complete, print and submit this worksheet to your lecturer. |

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| **Course/Module Class** | EP0302 |

# Section 2 Tasks

### Task 2-3: Average of electricity bills

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| Copy and paste the Python code that you have written for this task in this area  # 2-3 answer  print("\*"\*60 + "\nCalculate the average electricity bill for the last 6 months\n" + "\*"\*60)  totalSum = 0  totalCount = 0  totalString = ""  for i in range(1,7):  total = (float(input(f"Enter bill #{i}: ")))  totalSum += total  totalCount = i  totalString += str(f"${total:.2f}, ")  print(f"\nYour electricity bill for the past 6 months are :\n{totalString[0:len(totalString)-2]}\n")  print(f"Your average electricity bill is ${(totalSum/totalCount):.2f}") |

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| Paste a screenshot of the output of your program here |

# Section 5 Tasks

### Task 5-2: Perform simple string operations

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| Copy and paste the Python code that you have written for this task in this area  # 5-2 answer  stringValue = input("Enter 3 random strings, separated by commas: ")  [s1, s2 ,s3] = stringValue.split(",")  print(f"\ns1 is {s1}")  print(f"Length of {s1} is {len(s1)}")  print(f"2nd and 3rd characters of {s1} is {s1[1:3]}")  print(f"\ns2 is {s2}")  print(f"Length of {s2} is {len(s2)}")  print(f"5th and 7th characters of {s2} is {s2[4:7]}")  print(f"\ns3 is {s3}")  print(f"Length of {s3} is {len(s3)}")  print(f"Last two characters of {s3} is {s3[len(s3)-2:len(s3)]}") |

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| Paste a screenshot of the output of your program here |

# Section 6 Tasks

### Task 6-2: Spdonalds

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| Copy and paste the Python code that you have written for this task in this area  # 6-2 answers  menu = {1: ('SPMuffin', 5.00), 2: ('SPanCakes', 3.00), 3: ('SPHashbrown', 1.50)}  print("Welcome to SPdonalds!\nBelow is our Breakfast menu:\n" + "1.SPMuffin ($5.00) 2.SPancakes ($3.00) 3.SPHashbrown ($1.50)")  userInput = input("Enter your choice food:")  if(userInput.isnumeric()):  userIntInput = int(userInput)  if(userIntInput in menu):  print(f'{menu.get(userIntInput)[0]} ${menu.get(userIntInput)[1]:.2f} added!')  numberOfOrders = int(input(f"How many {menu.get(userIntInput)[0]} do you want to order? "))  print(f'The total cost for {menu.get(userIntInput)[0]} is ${numberOfOrders \* menu.get(userIntInput)[1]:.2f}')  else:  print("Sorry, you have entered an invalid choice. Exiting program...")  else:  print("Please key in an actual number!")    #object that has a method to return the next member, internally has a counter. next time it just +1 so the next function will  #return the val |

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| Paste a screenshot of the output of your program here |

# Section 7 Tasks

### Task 7-2: Calculate sum of numbers within a range

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| Copy and paste the Python code that you have written for this task in this area  # 7-2 answers  print(f'This program prints the sum of a range of numbers from x to y\nFor example,if x is 10 and y is 50, the program will print the sum of numbers from 10 to 50')  x = input("Please enter the value of x: ")  y = input("Please enter the value of y: ")  if x.strip('-').isnumeric() and y.strip('-').isnumeric():  x = int(x)  y = int(y)  if (x == 0 or y == 0):  print("One or more of your inputs are not greater than zero!\nUnable to continue. Program terminated.")  elif(x > y):  print("You did not enter a value of y that is greater than x\nUnable to continue. Program terminated.")  else:  sum\_of\_numbers = 0  for i in range (x, y + 1):  sum\_of\_numbers += i  print(f"The sum of numbers between {x} and {y} is {sum\_of\_numbers}")  else:  print("One or more of your inputs are not numeric!\nUnable to continue. Program terminated.") |

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| Paste a screenshot of the output of your program here |

# Section 9 Python Lists

### Task 9-3: List Slicing

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| Copy and paste the Python code that you have written for this task in this area  #9-3: answers  list\_1 = [300, 50, 80, 90, 199, 800, 74, 33]  list\_2 = ['Apple', 'Banana', 'Durian', 'Grapes', 'Papaya', 'Watermelon']  list\_3 = [0.0, 1.1, 2.2, 3.3, 4.4, 5.5, 6.6, 7.7, 8.8, 9.9]  print(f'{list\_1[len(list\_1)-3:len(list\_1)]}')  print(f'{list\_2[len(list\_2)-2:len(list\_2)]}')  print(f'{list\_3[1:len(list\_3)-1]}') |

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| Paste a screenshot of the output of your program here |

# Section 10 Tasks

### Task 10-2: Odd and Even

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| Copy and paste the Python code that you have written for this task in this area  #10-2: Odd and Even (SUBMISSION REQUIRED)  import random    original\_list = [random.randint(1,100) for x in range(0,20)]  even\_numbers =[]  odd\_numbers=[]  def oddandeven(numbers\_list):  for number in original\_list:  if(number % 2 == 0):  even\_numbers.append(number)  else:  odd\_numbers.append(number)    print(f'Original List: {original\_list}')  print(f'Odd: {even\_numbers}')  print(f'Even: {odd\_numbers}')    oddandeven(original\_list) |

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| Paste a screenshot of the output of your program here |