D: > Aaron files > 4th Year 1st Sem > Elective 4 Special Topics

```python
1   rows = 5
2
3   for x in range(1, rows +1):
4       for y in range(x):
5           print("*", end="")
6       print()
7   for x in range(rows - 1, 0, -1):
8       for y in range(x):
9           print("*", end="")
10      print()
```

laboratory_activity.py

```python
1   numbers = 100
2   even_sum = 0
3
4   for i in range(1, numbers):
5       if(i % 2 == 0 and i % 5 != 0):
6           square = i * i
7           even_sum += square
8           print("even numbers: ", i, " = ", square)
9   print("Sum of even numbers", even_sum)
10
```

act1.py

```python
1   # #write a function called even_square_su, that takes a
2   # list of numbers as input and return the sum
3   # of the even numbers in the list
4
5   def even_sum(lst):
6       sum = 0
7       for item in lst:
8           if(item % 2 == 0):
9               sum +=item
10      return print(sum)
11
12  numList = [1,2,3,4,5]
13
14  even_sum(numList)
```

act2.py
```python
1   # #write a function days_until_birthday that
2   # takes a person's birthdate as a parameter and
3   # return the numbersof days until their next birtday.
4   # you can use datetime module
5
6   from datetime import datetime
7
8   def days_until_birthday(bday):
9       current_date = datetime.now()
10      next_bday = datetime(current_date.year, bday.month, bday.day)
11      if(current_date > next_bday):
12          next_bday = datetime(current_date.year + 1, bday.month, bday.day)
13      days_left = (next_bday - current_date).days
14      return days_left
15
16  birthday = datetime(2002, 7, 1)
17  res = days_until_birthday(birthday)
18  print(res, "days left")
19
```

calculate.py
```python
1   def calculate(numbers):
2       if not numbers:
3           return 0
4       return sum(numbers) / len(numbers)
5   num_list = [1,3,4,6,7]
6   res = calculate(num_list)
7   print(res)
```

math_operations.py
```python
1   def add(x, y):
2       return x + y
3
4   def subtract(x, y):
5       return x - y
6
7   def multiply(x, y):
8       return x * y
9
10  def divide(x, y):
11      if y != 0:
12          return x / y
13      else:
14          return "Error: Cannot divide by zero"
15
16  num_add = add(3, 2)
17  print(f"Sum: {num_add}")
18
19  num_subtract = subtract(1,2)
20  print(f"Difference: {num_subtract}")
21
22  num_multiply = multiply(5, 3)
23  print(f"Product: {num_multiply}")
24
25  num_divide = divide(9, 3)
26  print(f"Quotient: {num_divide}")
```

```python
index.py
1    import random
2    import datetime
3    import math
4    import array
5
6    def greet(name):
7        print("Hello, " + name+"!")
8
9    greet("Aaron")
10   greet("Lopez")
11
12   nameInput = input("Enter name: ")
13   greet(nameInput)
14
15   def add_numbers(a,b):
16       return a + b
17
18   result = add_numbers(5,7)
19   print(result)
20
21   def print_list(lst):
22       for item in lst:
23           print(item)
24
25   my_list = [1,2,3,4,5]
26   print_list(my_list)
```

```python
27
28   #Using random module
29   random_num = random.randint(1,10)
30   print(random_num)
31
32   #Using datetime module
33   current_time = datetime.datetime.now()
34   print(current_time)
35
36   #using math module
37   radius = 5
38   area = math.pi * radius**2
39   print(area)
40
41   #SET
42   mySet = {1,2,3,4,5}
43   myStringSet = {"apple", "banana", "orange"}
44   emptySet = set()
45
46   #iterate a set
47   for val in mySet:
48       print(val)
49
50   #checking membership in set
51   print(1 in mySet)
52   print(7 in mySet)
```

Student Portfolio
1st Term, A.Y. 2023-2024

Name: **Aaron Lopez**_____   Year & Section: **4D**_____
Activity: **Laboratory Activities/Quizzes**_____   Subject: **Elective 4**

```python
54    #Adding set items ADD method
55    mySet.add(6)
56    mySet.add(7)
57    print(mySet)
58
59    #Using UNION method
60    mySet1 = {1,2,3,4,5}
61    mySet2 = {6,7,8}
62    finalSet = mySet1.union(mySet2)
63    print(finalSet)
64
65    #using UPDATE method
66    mySet1 = {1,2,3,4,5}
67    mySet2 = {6,7,8}
68    mySet1.update(mySet2)
69    print(mySet1)
70
71    # mySet1 = {1,2,3,4,5}
72    myList = {6,7,8}
73    mySet1.update(mySet2)
74    print(mySet1)
75
76    #using REMOVE method
77    #Key Error, no 6 in the set
78    mySet = {1,2,3,4,5}
79    mySet.remove(6)
80    print(mySet)
81
82    # mySet = {1,2,3,4,5}
83    mySet.remove(3)
84    print(mySet)
```

```python
index.py
86      #using DISCARD method
87      mySet = {1,2,3,4,5}
88      mySet.discard(6)
89      print(mySet)
90
91      #using POP method
92      #removes the lowest
93      mySet = {6,2,3,1,5}
94      removedElement = mySet.pop()
95      print(removedElement)
96      print(mySet)
97
98      #ARRAY
99      #array of integer numbers
100     numbers = array.array('i', [1,2,3,4,5])
101
102     #array of floating point numbers
103     scores = array.array('f', [98.5, 93.8, 90,4])
104
105     #using LEN function. get the length
106     print(len(numbers))
107
108     #accessing arrays
109     print(numbers[0])
110     print(numbers[1])
111     print(numbers[2])
112
113     #adding array items
114     #using APPEND method
115     numbers.append(6)
116     numbers.append(7)
117     print(numbers)
118
```

```python
118
119     #array concatenation
120     moreNumb = [6,7]
121     numbers += array.array('i', moreNumb)
122     print(numbers)
123
124     # changing array
125     numbers[2] = 10
126     print(numbers)
127
128     #looping arrays
129     for num in numbers:
130         print(num)
131
```

Lopez, Aaron E.   IT-4D   B

Quiz 2

1. ~~stop~~ elif   H. dictionary
3.   7. keys()
3. break   8. get("key")
4. Nested loop   9. ~~update~~
5. ~~start~~ b) len()   6   13. items()
6. y-false   14. thisdict["key"] = value
7. range (0,100,1)
8. continue
9. ~~to lowercase~~ lower()
10. capitalize()

1. ~~~~
11. HELLO WORLD
13. My name is John, I am 36
14. My name is John, I am 36
15. {type : Book,
16. title : Moby Dick,
       year : 1851 }