

Masters of Computer Application (MCA)

Re-appear, Examination

Dec, 2024

ENMM701- Problem Solving and Advanced Programming Concepts

Time: 2.5Hours

Maximum Marks: 50

Instructions:

- 1) Question No. 1 under Section-A is compulsory.
 - 2) Attempt any four from Q. No. 2 to Q. No. 6 under Section-B
 - 3) Attempt any two from Q. No. 7 to Q. No.9 under Section-C
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Section-A(Compulsory)

1. a. Write a python program to generate a lambda function to separate the odd and even number from a list of numbers, list_a as provided in the following output.
3 [CO-2] [L-7]
1. (b) What are the differences between a list and a tuple? How do you create a tuple from a set?
2 [CO-1] [L-3]
1. (c) Observe the following code and identify what will be the outcome?

```
import numpy as np
x = np.array([[0, 4],
              [5, 7]])
np.transpose(x)
```

What is the output of the following variable assignment?

```
x = 75
def myfunc():
    x = x + 1
    print(x)

myfunc()
print(x)
```

2 [CO-3] [L-8]

1. (d) Show the printout of the following code:

3 [CO-3] [L-8]

```
t = (12,0,4,6,23,18,0,1)
print(t[3])
print(t[2: 6])
print(t[-2])
print(t[ : -1])
print(t[1 : -2])
```

Section-B

2. i. Construct a regex that filter all elements that start with den or end with ly of length of only five or six.
ii. Write a regex to extract the full email addresses.

5[CO-2] [L-4]

3. Write a program to find all duplicate elements in a list using linear search.
5[CO-3] [L-7]

4. Consider the list and write the code for the following:

5[CO-2] [L-5]

```
data = [['DS', 'Linked_list', 10], ['DS', 'Stack', 9], ['DS', 'Queue', 7],
        ['Algo', 'Greedy', 8], ['Algo', 'DP', 6], ['Algo', 'BackTrack', 5], ]
```

- a. Create data frame from the given list
b. Show top 3 rows of data frame
c. Slicing the dataframe and display data [2:4]

5. Write a program for bubble sort using user defined function.

5[CO-4] [L-9]

6. Write the program usings functions- Input user choice and do the following functionalities.

Choice 1- Write a program to print the Fibonacci series upto the given term.

Choice 2 – To Find the Greatest common divisor (GCD) of any two given numbers.

5 [CO-3] [L-7]

Section-C

7. What is exception handling? Write names of few common exception classes. Write any program that generates three different type of exceptions and handle them.

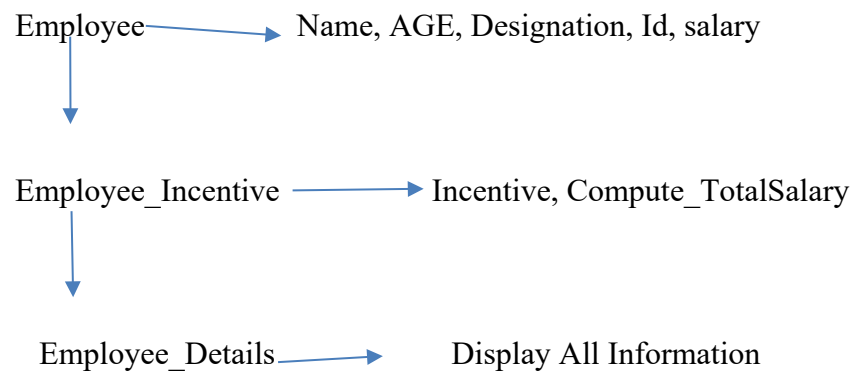
10[CO-4] [L-9]

8. a. What is Method overriding? Explain with the help of one example.

b. Write a program to read the given CSV file and replace all the NULL values with the mean values

10[CO-4] [L-8]

9. Write the program for the following using inheritance and constructors :



10[CO-4] [L-9]