Exam on Python Programming

[Time: 1 hr]

[Total Marks: 100]

<table>
<tr><th></th><th></th><th>Marks</th></tr>
<tr><td>Q1.</td><td>Count all letters, digits, and special symbols from a given string

str1 = "I@#ma26rt^&ic5us"</td><td>[10]</td></tr>
<tr><td>Q2.</td><td>Write a Python program to find numbers divisible by nineteen or thirteen from a list of numbers using Lambda.
a=[19, 65, 57, 39, 152, 639, 121, 44, 90, 190]</td><td>[10]</td></tr>
<tr><td>Q3.</td><td>Find all of the words in a string that are less than 5 letters.
string = "Practice Problems to Drill List Comprehension in Your Head."</td><td>[10]</td></tr>
<tr><td>Q4.</td><td>Calculate income tax for the given income by adhering to the below rules:
<table><tr><th>Taxable income</th><th>Rate (in %)</th></tr><tr><td>First $10,000</td><td>0</td></tr><tr><td>Next $10,000</td><td>10</td></tr><tr><td>The remaining</td><td>20</td></tr></table>
Expected Output:

For example, suppose the taxable income is 45000 the income tax payable is:

10000 0% + 10000 10% + 25000 20% = $6000.</td><td>[10]</td></tr>
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Q5.	Given below are the list of positive and negative words. Also, a list of tweets is provided. Separate out the positive and negative comments. positive = ['good','awesome', 'best', 'nice'] negative = ['worst','awful', 'bad'] tweets = ['This government policies are good', 'bad implementation', 'The way he played showed that he is one of the best players in the world', 'Her acting in the play was awesome', 'The wine tastes awful', 'It's nice to hear this little kid's laugh']	**[10]**
Q6.	Extend nested list by adding the sublist. You have given a nested list. Write a program to extend it by adding the sublist ["h", "i", "j"] in such a way that it will look like the following list. list1 = ["a", "b", ["c", ["d", "e", ["f", "g"], "k"], "l"], "m", "n"] sub list to add sub_list = ["h", "i", "j"] expected output =['a', 'b', ['c', ['d', 'e', ['f', 'g', 'h', 'i', 'j'], 'k'], 'l'], 'm', 'n']	**[10]**
Q7.	Remove and add item in a list. Write a program to remove the item present at index 4 and add it to the 2nd position and at the end of the list. list1 = [54, 44, 27, 79, 91, 41]	**[10]**
Q8.	Load the iris dataset and Find only those records whose sepal_length = 5.1 and sepal_width = 3.5	**[10]**

Q9.	Check for Maximum petal_length and convert it in to 7.2 and min petal_length and convert it in to 1.2	**[10]**
Q10.	Perform right join to combine values based on the 'ID' in the two dataframes. Use the dataframe given below, read the DataFrame with the help of clipboard function.	**[10]**

ID	Candidate_Name	Subject
101	Alex	History
102	Amy	English
103	Allen	Geography
104	Alice	German
105	James	History
106	Sara	German
107	Mia	English

ID	City	Subject_Score
101	Delhi	89
102	Mumbai	78
103	Delhi	77
104	Chennai	87
105	Hyderabad	87
108	Delhi	84