

Course:	Python Programming			Semester:	I	Date:	27/11/2024
Division:		Batch:		SET	A	Name:	
Exam:	OST			Time:	04:00 to 05:30 PM	Roll No:	

Q 1	Attempt Any ONE [Show all test Cases in Output]	Marks			
1	<p>Write a Python program that filters a list of integers and counts how many numbers are less than 10 and odd.</p> <table> <tr> <td> Test Case 1: Sample List: [2, 7, 15, 22, 10, 6] Expected Result: [7], 1 </td><td> Test Case 2: Sample List: [1, 6, 15, -2, -17, 6] Expected Result: [1, -17], 2 </td><td> Test Case 3: Sample List: [17, -6, 15, -2, 17, 6] Expected Result: [], 0 </td></tr> </table>	Test Case 1: Sample List: [2, 7, 15, 22, 10, 6] Expected Result: [7], 1	Test Case 2: Sample List: [1, 6, 15, -2, -17, 6] Expected Result: [1, -17], 2	Test Case 3: Sample List: [17, -6, 15, -2, 17, 6] Expected Result: [], 0	08
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2	<p>Write a python program that finds <i>even numbers divisible by 5</i> from 1 to 50 and appends them in a text file with the statement: "The 1 number is: " and so on. [Attach Screenshot of Output File also] Expected Output: The 1 number is 10 The 2 number is 20 The 3 number is 30 The 4 number is 40 The 5 number is 50</p>	08			

Q 2	Attempt Any ONE [Show all test Cases in Output]	Marks		
1	<p>Write a Python function <i>student_grades</i> that takes a dictionary where the keys are student names and the values are lists of their scores in different subjects. The function should return a dictionary where each student's name is a key, and the value is a dictionary with their maximum, minimum and average score rounded to two decimal places.</p> <table><tr><td><p>Test Case 1: grades = { 'Sameer': [85, 90, 78],, 'Vihan': [92, 88, 84], 'Kabir': [72, 75, 80] }</p><p>Output: {'Sameer': {'Average': 84.33, 'Highest Score': 90, 'Lowest Score': 78}, 'Vihan': {'Average': 88.0, 'Highest Score': 92, 'Lowest Score': 84}, 'Kabir': {'Average': 75.67, 'Highest Score': 80, 'Lowest Score': 72}}</p></td><td><p>Test Case 1: grades = { 'Sat': [85, 90, 78 , 45, 60], 'Chid': [92, 88], 'Anand': [72, 75, 80, 32] }</p><p>Output: {'Sat': {'Average': 71.6, 'Highest Score': 90, 'Lowest Score': 45}, 'Chid': { 'Average': 90.0, 'Highest Score': 92, 'Lowest Score': 88}, 'Anand': {'Average': 64.75, 'Highest Score': 80, 'Lowest Score': 32} }</p></td></tr></table>	<p>Test Case 1: grades = { 'Sameer': [85, 90, 78],, 'Vihan': [92, 88, 84], 'Kabir': [72, 75, 80] }</p> <p>Output: {'Sameer': {'Average': 84.33, 'Highest Score': 90, 'Lowest Score': 78}, 'Vihan': {'Average': 88.0, 'Highest Score': 92, 'Lowest Score': 84}, 'Kabir': {'Average': 75.67, 'Highest Score': 80, 'Lowest Score': 72}}</p>	<p>Test Case 1: grades = { 'Sat': [85, 90, 78 , 45, 60], 'Chid': [92, 88], 'Anand': [72, 75, 80, 32] }</p> <p>Output: {'Sat': {'Average': 71.6, 'Highest Score': 90, 'Lowest Score': 45}, 'Chid': { 'Average': 90.0, 'Highest Score': 92, 'Lowest Score': 88}, 'Anand': {'Average': 64.75, 'Highest Score': 80, 'Lowest Score': 32} }</p>	12
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2	<p>Write a Python program that performs the following tasks:</p> <p>1. Generate Data:</p> <ul style="list-style-type: none">• Use NumPy to create a range of values (x) from 0 to 4π (approximately 12.566) with an interval of 0.2.• Compute the following trigonometric values for each x:<ul style="list-style-type: none">◦ Sine values and store them in an array y_{sin}.◦ Cosine values and store them in an array y_{cos}.◦ Tangent values and store them in an array y_{tan}. <p>2. Plotting:</p> <ul style="list-style-type: none">• Create a line plot that displays the sine, cosine, and tangent functions on the same graph.• Give separate colors to each line• Give the appropriate labels, title.• Add grid lines & legend to the plot for better readability.	12
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