



RAMCO INSTITUTE OF TECHNOLOGY
RAJAPALAYAM

Department of Artificial Intelligence and Data Science
Academic Year 2023 – 2024 (Odd Semester)

Degree, Semester & Branch: B.Tech, I & B sec

Course Code & Title: GE3151 & Problem Solving and Python Programming

Name of the Faculty member (s): Mrs. S. Jothi Lakshmi

Innovative Practice Description

- **Unit / Topic: Unit IV/ Lists, Tuples and Dictionaries**
- **Course Outcome:** CO4 - Implement compound data using Python lists, tuples, dictionaries etc..
- 1. **Topic Learning Outcome:**
 - TLO8** - Students will be able to interpret the uses and differences of various data structures in python
 - TLO9** - Students will be able to apply the various functions of list, tuples, dictionary data structure for solving real time problems.
- **Activity Chosen:** Python Code Puzzle Challenge
- **Justification:** As the activity carried on data structures in python, this activity is mapped to CO4 and TLO8,9. This activity helps to improve the student's understanding in the particular topic, and it motivates and engages the students to learn in depth about the mentioned topic in a fun and competitive way. It deepens their understanding of the language and improves their problem-solving skills.
- **Time Allotted for the Activity:** 50 Min
- **Details of the Implementation:**
 - 1) Make the students to form team of size 3
 - 2) Initially 5 minutes was given to all the teams to create python programs and they often exploit certain language features, unexpected behavior, or corner cases that might lead programmers to make incorrect assumptions about the program's output.
 - 3) Each team is given opportunity to project the program by typing the program in the python interpreter.
 - 4) Then they have to point out a team and ask them to guess the answer for the program. They will be given 2 minutes to discuss with their team member.
 - 5) The pointed team will give their answers. If it is correct, they have to explain how the output has been achieved. Finally, they will be applauded and provided with 5 marks.
 - 6) If it is wrong means the chance was given to all other teams.
 - 7) All other teams have to discuss with their team mates and give their answers with explanation. The right one will be applauded and provided with 2 marks.

- 8) If none of the teams able to guess the correct output, the team who is asking question will be awarded with 3 marks and they will explain the answers.
- 9) The above process has been repeated for all the teams.

• CO – PO / PSO mapping:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C105.4	3	3										

(1 – Low 2 – Moderate 3 – High)

• PO / PSO mapped:

Innovative practice	PO1	PO2
	3	3
Justification for correlation	Students use their knowledge of mathematics, science and engineering fundamentals to find the output of the programs	Students analyze the problems and conclude with correct output

• Images / Screenshot of the practice:



- **Reflective Critique:**

- ❖ ***Feedback of practice from students and other stakeholders:***

- Participants found the activity to be engaging and interactive, enhancing their overall learning experience.
- Feedback indicating that the element of comparison increased engagement levels, as participants felt a sense of responsibility and accountability towards their own performance.
- Feedback indicating that they able to test their understanding of subtle nuances and quirks in the Python language.
- Participants found that they have learned so many language features, unexpected behavior, or corner cases.

- ❖ ***Benefit of the practice:*** (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)

- Code puzzles are inherently challenging and can pique the interest of participants. Solving puzzles can be a motivating and engaging way to learn programming concepts.
- Python code puzzles encourage participants to think critically and apply problem-solving skills.
- Code puzzles can inject an element of fun into the learning process. The satisfaction of successfully solving a challenging puzzle can make the learning experience enjoyable.

- ❖ ***Challenges faced in implementation:***

- Participants may find it challenging to complete puzzles within a specified time frame. It's important to ensure that the given time allows for thoughtful problem-solving while preventing frustration.
- Participants in a group may have varying skill levels. Designing puzzles that are challenging for advanced learners while still accessible to beginners can be a balancing act.



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**Feedback
Innovative practice: Python Code Puzzle Challenge**

Department of Artificial Intelligence and Data Science

**Degree, Semester & Branch: I Sem. B.Tech. Artificial Intelligence and Data Science.
Course Code & Title: GE3151 – Problem Solving and Python Programming
Name of the Faculty member: Mrs S. Jothi Lakshmi, AP/AD
Date and Time : 16/12/2023 , 2.20 PM – 3.10 PM**

Feedback questions:

Did the active learning method used in the session engage your interest in the understanding and predicting Python code behavior ?

Yes No

How did the active learning method enhance your problem-solving aspect ?

Excellent Good Satisfactory

Did the active learning method encourage active participation and communication?

Yes No

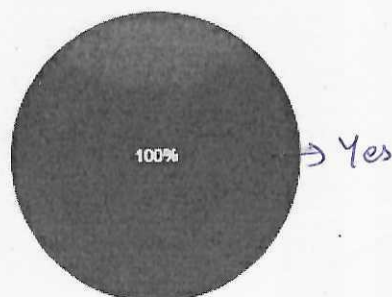
Did the active learning method prompt you to think more deeply or critically about the behavior of python programs?

Yes No

Did the active learning method used in the session engage your interest in the understanding and predicting Python code behavior ?

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55 responses



How did the active learning method enhance your problem-solving aspect ?

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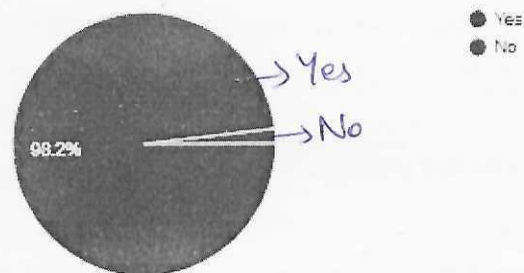
55 responses



Did the active learning method encourage active participation and communication?

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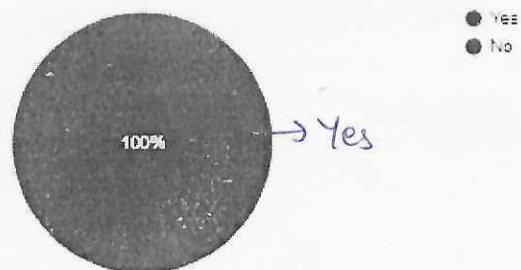
55 responses



Did the active learning method prompt you to think more deeply or critically about the behavior of python programs?

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55 responses



Joly
20/12/23

Signature of Faculty Member

mark
20/12/23

HOD