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| **AY -ODD 2024-25** | | | | | | | | | | | | | |
| **GUJARAT TECHNOLOGICAL UNIVERSITY** | | | | | | | | | | | | | |
| **SCHOOL OF ENGINEERING AND TECHNOLOGY** | | | | | | | | | | | | | |
| **PRACTICAL - 10** | | | | | | | | | | | | | |
| **Course Code & Name** | | | **ME01095021- Artificial Intelligence** | | | | | | | | | | |
| **Academic Term:** | | | **AY –ODD 2024-25** | | | | | **Semester** | | | | **I** | |
| **Student Enrollment No:** | | | **241370795004** | | | | | **Batch:** | | | |  | |
| **Student Name:** | | | **Dake Darsh Dhaneshkumar** | | | | | | | | | | |
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| **AIM/Objective:** | | | | | | | | | | | | | |
| 1 | | To solve Monkey-Banana problem in prolog as per below given problem statement.  (i) A hungry monkey is in a room, and he is near the door.  (ii) The monkey is on the floor.  (iii) Bananas have been hung from the center of the ceiling of the room.  (iv) There is a block (or chair) present in the room near the window.  (v) The monkey wants the banana, but cannot reach it.  So how can the monkey get the bananas? | | | | | | | | | | | |
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| **Expected Outcome:** | | | | | | | | | | **CO/PO/PSO** | | | |
| 1 | | Evaluate the performance of different learning methods using suitable performance metrics. | | | | | | | | CO3 | | | |
|  | | **Experiment Result and Analysis**  **Resources and Software used:**   1. SWI-Prolog   **Code:**  % Facts  on(floor, monkey).  on(floor, box).  in(room, monkey).  in(room, box).  in(room, banana).  at(ceiling, banana).  strong(monkey).  grasp(monkey).  climb(monkey, box).  push(monkey, box) :- strong(monkey).  under(banana, box) :- push(monkey, box).  % Rules  canreach(banana, monkey) :-  at(floor, banana); % If the banana is on the floor, it can be reached  (at(ceiling, banana), under(banana, box), climb(monkey, box)). % If the banana is on the ceiling, the monkey can push the box under it and climb.  canget(banana, monkey) :-  canreach(banana, monkey), % The monkey can reach the banana  grasp(monkey). % The monkey can grasp the banana  % Query Goals  % (1) Can the monkey get the banana?  % ?- canget(banana, monkey).  % (2) Can the monkey reach the banana?  % ?- canreach(banana, monkey).  **Output:** | | | | | | | |  | | |  |
|  | | |  |  | | --- | --- | | **Conclusion** | | | 1 | This Prolog program models the Monkey-Banana problem by using logical reasoning to describe the actions needed for the monkey to obtain the banana. The rules and facts simulate real-world scenarios, showcasing Prolog's ability to solve problems through inference. | | | | | | | | | | | | |
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| **Evaluation Rubrics** | | | | | **Marks** | | **Inadequate** | | **Good** | | **Excellent** | | |
| **0%** | | **50%** | | **100%** | | |
| 1 | The understanding of the Student regarding the objective of the given practical | | | | **2** | |  | |  | |  | | |
| 2 | Installation of Software or Hardware Setup level | | | | **2** | |  | |  | |  | | |
| 3 | Quality of the Analysis done | | | | **2** | |  | |  | |  | | |
| 4 | Quality of the report including concluding remarks and Findings | | | | **2** | |  | |  | |  | | |
| 5 | Question & Answer related to given practical & timely submission | | | | **2** | |  | |  | |  | | |
|  | | | | | **10** | |  | |  | |  | | |
| **Total Marks Obtained Out of 10** | | | | | | |  | | | | | | |
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|  | | **Date of Completion:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |  | | **Course**  **Coordinator Sign:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | | | | | | |