

CS 6364: Artificial Intelligence

Supermarket Knowledge Base Axioms

1. supermarket sell all goods
2. Adults buy goods at a supermarket.
3. People can be Adults or child
4. Safeway is a supermarket
5. Target is a supermarket
6. Walmart is a supermarket
7. Tam thumb is a supermarket
8. North Berkeley Safeway is a Safeway
9. North Berkeley Safeway is in North Berkeley
10. Meat, dairy, baked items, grocery and pharmacy products are goods that are available in a supermarket
11. Groceries consists of fresh and frozen produce.
12. Goods that are edible are food
13. If anything is edible, then it can be eaten by people
14. Meat is a food
15. Groceries is food
16. Dairy is food
17. People eat food
18. People who eat meat are non-vegetarians
19. beef is meat.
20. Fruits are groceries
21. Vegetables are grocery
22. Tomato is a fruit
23. Onion is a vegetable
24. Potato is a vegetable
25. Carrot is a vegetable
26. Beans is a vegetable
27. Vegetarians do not eat meat
28. People only buy edible goods that they eat
29. Supermarket does not make anything
30. Supermarkets buys goods from Distribution centres
31. Anyone can buy anything at supermarket (Supermarket sells everything)
32. People need to bring money to buy goods at supermarket
33. Money can be cash or credit card
34. People need to pay to buy goods at the supermarket
35. People need to have money to pay
36. People have less money after paying
37. Decrease in anything indicates not increase and increase in anything indicates not decrease (they are inverse of the other)
38. Staff of supermarket are Adult
39. Supermarket is owned by an adult

40. All the items in a supermarket is owned by the supermarket
41. Owning anything is transitive
42. Safeway is owned by Safeway Corporations
43. Staff are always at supermarket when it is open
44. People can only go to supermarket when it is open
45. When anything is open it is not closed, when it is closed it is not open
46. Goods are purchased in weight or numbers
47. At supermarkets, the unit of weight used is pound
48. Pound is greater than ounces (1 pound is 16 ounces)
49. Supermarkets have gas station near them
50. Gas stations have gas
51. Shell station is a gas station
52. People only buy goods that fit in the vehicle storage space
53. All vehicles have storage spaces
54. Car is a vehicle
55. Bus is a vehicle
56. Train is a vehicle
57. SUV is a type of car
58. Truck is a type of car
59. Van is a type of car
60. Convertible is a type of car
61. Sedan is a type of car
62. In a car, trunk is the storage space
63. Chicken is meat
64. Pork is meat
65. Lamb is meat
66. Mutton is meat
67. Venison is meat
68. Sea food is meat
69. Fish is sea food
70. People buying an item at the same time in a supermarket meet each other
71. People who never bought the same item at the same time do not meet
72. n pound of tomatoes has at least n tomatoes
73. n pound of Onion has at least n onion
74. n pound of potato has at least n potato
75. Meat products have an expiry date after purchase
76. Supermarkets have aisles for goods
77. Each goods has a price tag associated with it
78. People have to pay the money shown in the price tag to purchase the goods
79. Every visit to supermarket has a start time and end time
80. Two events share a time period if the second event starts before the first ends
81. If two events share a time period then they overlap
82. If one event subsumes another then the smaller event occurs during the larger event
83. Event end time is always greater than start time
84. If one event starts after another ends then former occurs after.
85. If an event occurs after an event then the latter event occurs before the former
86. If one event occurs after another event then they do not meet
87. If one event occurs before another event then they do not meet

88. If two events overlap then they meet
89. if anything is greater than another thing then it implies the latter is less than the former.
90. If one event subsumes another, then they meet
91. if anything is less than another thing then it implies the latter is greater than the former.
92. If anything is less than another then it implies the latter is not less than the former
93. If anything is greater than another then it implies the latter is not greater than the former
94. If anything is near another thing then it implies that the latter is also near the former thing.
95. If the goods fit in the storage space of a vehicle then it implies they fit in the vehicle.
96. Aisles have shelves
97. Adults are not children, children are not adults
98. Fresh produce is not frozen produce, frozen is not fresh
99. Vegetarians are not non-vegetarians, non-vegetarians are not vegetarians
100. John went to the North Berkeley Safeway supermarket and bought two pounds of tomatoes and a pound of ground beef.

The below axioms have not been added to the KB yet:

1. When anyone buys anything they own it
2. People can return some purchased products back to supermarkets
3. When people return their items they get back their money
4. People have more money after they return items
5. People wait in queues at supermarkets for billing
6. Supermarkets have carry bags to carry purchased products
7. Supermarkets have carts to carry goods to the vehicle