**FIRST ORDER LOGIC [TASK 2]**

1. all x (exists y supermarket(x) & (personalitem(y) | fooditem(y) | dairyproducts(y)|beverages(y)) -> sells (x, y)).
2. all x (supermarket(x) -> shop(x)).
3. all x (exists y exists z supermarket(z) & item(x) & (customer(y) | employee(y)) -> scan(y, x, z )).
4. all x (exists y all z exists u customer(u) & supermarket(x) & employee(y) & item(z) & restock(y, z, x) & assist(y, u)).
5. all x (exists z supermarket(z) & customer(x) & use (x, Cart)).
6. all x (customer(x) -> get(x, receipt)).
7. all x (all y supermarket(x) & item(y)-> deliver(x, y)).
8. all x (exists y shop(x) & item(y) -> sells (x, y)).
9. all x (exists y exists z exists u time(u) & shop(z) & item(y) & person(x) & bought(x, y, z, u) -> customer(x)).
10. all x (customer(x) -> adult(x)).
11. all x (exists y people(x) & sellItems(x, y) & item(y) -> seller(x)).
12. all x (people(x) & works(x) -> employee(x)).
13. all x (exists y shop(x) & has(x, y) & (employee(y) & customer(y))).
14. all x (fooditem(x) -> item(x)).
15. all x (personalitem(x)->item(x)).
16. deodorant(D).
17. all x (deodorant(x) -> personalitem(x)).
18. tomato(T).
19. beef(B).
20. all x (beef(x) -> meat(x)).
21. all x (lamb(x) -> meat(x)).
22. all x (pork(x) -> meat(x)).
23. all x (sausage(x) -> meat(x)).
24. all x (stew\_meat(x) -> meat(x)).
25. all x (halal(x) -> meat(x)).
26. all x (meat(x) -> fooditem(x)).
27. all x (person(x) -> people(x)).
28. all x (all y supermarket(x) & item(y) -> -make(x,y)).
29. person(John).
30. bought(John, T, Safeway, t).
31. weight(T, 2).
32. weight(B, 1).
33. bought(John, B, Safeway, t).
34. person(Mary).
35. all x (exists y exists z exists t customer(x) & item(y) & shop(z) & time(u) & bought(x, y, z, u) -> bringsMoney(x, z)).
36. all x (exists z shop(z) & customer(x) & bringsMoney(x,z)-> all y brings(x, y, z) & money(y)).
37. money(card).
38. money(cash).
39. isa(creditcard, card).

ms

1. supermarket (Safeway).
2. supermarket(NBS).
3. isa(NBS, Safeway).
4. locatedAt(Safeway, NorthBerkeley).
5. time(t).
6. measure(Pound).
7. measure(Ounce).
8. measure(Kilogram).
9. all x (fooditem(x) & weight(x, 1)-> unit(x)).
10. all x (exists y fooditem(x) & measure(y) -> usedToWeight(y, x)).
11. all x (tomato(x) -> piecesPerPound(x,5)).
12. all x ( exists y exists z exists u customer(x) & item(y) & shop(z) & time(u) & bought(x, y, z, u)-> paid(x, y, z, u)).
13. all x ( exists y exists z exists u customer(x) & item(y) & shop(z) & time(u) & paid(x, y, z, u)-> lessMoney(x)).
14. all x ( exists y exists z exists u customer(x) & item(y) & shop(z) & time(u) & paid(x, y, z, u)-> moreMoney(z)).
15. all x (exists y exists z exists u customer(x) & item(y) & shop(z) & time(u) & bought(x, y, z, u) -> owns(x, y)).
16. all x (exists y exists z exists t customer(x) & item(y) & shop(z) & time(u) & bought(x, y, z, u) -> bringsMoney(x, z)).
17. all x (exists y customer(x) & fooditem(y) & owns(x, y) -> eats(x, y)).
18. all x (all y exists u exists z person(x) & person(y) & item(u) & shop(z) & bought(x, u, z, t) & bought(y, u, z, t) -> see(x,y)|see(y,x)).
19. all x (meat(x) -> animalproduct(x)).
20. all x (fish(x) -> animalproduct(x)).
21. all x (egg(x) -> animalproduct(x)).
22. all x (animalproduct(x) -> fooditem(x)).
23. all x (exists y people(x) & -eats(x, y) & animalproduct(y) -> vegetarian(x)).
24. all x (exists y people(x) & -eats(x, y) & (animalproduct(y) | dairyproduct(y)) -> vegan(x)).
25. all x (exists y people(x) & eats(x, y) & animalproduct(y) -> nonvegetarian(x)).
26. all x (groundbeef(x)->beef(x)).
27. gas(G).
28. all x (gas(x) & sells(Shell, x)).
29. all x (adult(x) -> -child(x)).
30. all x (child(x) -> -adult(x)).
31. all x (exists y shop(x) & sells(x, y) & item(y) -> owns(x,y)).
32. hasSize(carTrunk, 600).
33. all x (milk(x) -> dairyproduct(x)).
34. all x (cheese(x) -> dairyproduct(x)).
35. all x (butter(x) -> dairyproduct(x)).
36. all x(fish(x)->meat(x)).
37. all x (vegetable(x)->fooditem(x)).
38. all x (tomato(x)->vegetable(x)).
39. all x (cabbage(x)->vegetable(x)).
40. all x (broccoli(x)->vegetable(x)).
41. all x (potato(x)->vegetable(x)).
42. all x (onion(x)->vegetable(x)).
43. all x (juice(x)->beverage(x)).
44. all x (soda(x)->beverage(x)).
45. all x (alcohol(x)->beverage(x)).
46. all x (water(x)->beverage(x)).
47. all x (tea(x)->beverage(x)).
48. all x (coffee(x)->beverage(x)).
49. all x (fruit(x)->fooditem(x)).
50. all x (apple(x)->fruit(x)).
51. all x (mango(x)->fruit(x)).
52. all x (banana(x)->fruit(x)).
53. all x (strawberry(x)->fruit(x)).
54. all x (pineapple(x)->fruit(x)).
55. all x (lotion(x) -> personalitem(x)).
56. all x (hairspray(x) -> personalitem(x)).
57. all x (shavingcream(x) -> personalitem(x)).
58. all x (cosmetic(x) -> personalitem(x)).
59. all x (toothbrush(x) -> personalitem(x)).
60. all x (bodywash(x) -> personalitem(x)).
61. all x (soap(x) -> personalitem(x)).