**README**

1. To run the tool, enter the following command on console.

$PROVER9 < <input.txt>

*$PROVER9 – path to prover9 program in bin file.*

*<input.txt> – absolute path to input.txt.*

1. Task1.txt contains the list of assertions.
2. Task2.txt contains the list of F.O.L converted axioms.
3. I have attached the outputs of problems 12.5 and 12.6 in the output\_12.5.txt and output\_12.6.txt file respectively. (task3)
4. Report.pdf is the attached report which has a list of test questions of my own. I have provided all outputs of questions in problems 12.5 and 12.6 in the report because it’s already there in the output file. Instead I thought of specifying some of my own test questions as examples.
5. To ask any question, open the input file and put any of the following questions in the formulas(goals) section and execute the above-mentioned command to see the proof.
6. I haven’t done the numerical questions since it’s not supported in Prover9. I could have probably hardcoded those but that didn’t make sense since the database should be generic.

Questions to system in logic form:

12.5)

1. adult(John)
2. not done
3. exists x exists z exists t(meat(x) & bought(John, x, z, t)).
4. bought(Mary, T, Safeway, t)-> see(John, Mary)|see(Mary, John).
5. all x (all y supermarket(x) & tomato(y) -> -make(x, y)).
6. eats(John, T).
7. all x (deodorant(x) -> sells(Safeway, x)).
8. bringsMoney(John, Safeway) | brings(John, card, Safeway)| brings(John, cash, Safeway).
9. lessMoney(John).

12.6)

1. exists x ( has(Safeway, John) & has(Safeway, x) & employee(x)).
2. nonvegeterian(John).
3. exists x (owns(Safeway, x) & deodorant(x)).
4. not done
5. exists x (owns(Shell, x) & gas(x)).
6. not done