CS331 Assignment -5

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To run the program type the following in the terminal:
    swipl
Then type the following in the prompt:
    consult('180101033.pl').

A. Square Root Program
To test this prolog predicate, type the following in the terminal:

squareRoot(X, Result, Accuracy).   where X is number whose square root is to be found and Accuracy is desired Accuracy of square root.

Sample Test Cases:
        squareRoot(1020,Result,0.0001).
        squareRoot(100,Result,0.0001).
        squareRoot(12,Result,0.0001).
        squareRoot(402001,Result,0.0001).
        squareRoot(1895,Result,0.00001).

B. isSubList Program
To test this prolog predicate, type the following in the terminal:

isSubList(X,Y).   where the predicate returns true if list X is a isSubList of list Y.
Sample Test Cases:

isSubList([a,b],[b,a,b,a]).
isSubList([],[]).
isSubList([a],[]).
isSubList([a,b],[a,e,f]).
isSubList([a,b,c,e],[b,a,b,a,a,b,d,t,f,c]).
isSubList([],[a]).

The commands and the corresponding output are shown in the screenshot below:

```
krtky@krtky-G3-3579:~$ cd Desktop
krtky@krtky-G3-3579:~/Desktop$ ls
180101033.pl   Acads
krtky@krtky-G3-3579:~/Desktop$ swipl
Welcome to SWI-Prolog (threaded, 64 bits, version 7.6.4)
SWI-Prolog comes with ABSOLUTELY NO WARRANTY. This is free software.
Please run ?- license. for legal details.

For online help and background, visit http://www.swi-prolog.org
For built-in help, use ?- help(Topic). or ?- apropos(Word).

?- consult('180101033.pl').
true.

?- squareRoot(1895,Result,0.00001).
Result = 43.53159771935783.

?- squareRoot(12,Result,0.0001).
Result = 3.4641016151377544.

?- squareRoot(100,Result,0.0001).
Result = 10.000000000107446.

?- isSubList([a,b],[b,a,b,a]).
true .

?- isSubList([],[a]).
true.

?- isSubList([a,b,c,e],[b,a,b,a,a,b,d,t,f,c]).
false.

?- isSubList([a],[]).
false.

?- 
```

For any query or problem in running the code, contact me. Email: kartikay@iitg.ac.in Phone number: 8397078667