10/10/24

CS 339 :- Lec - 28

* All paradigms till now
  1. functional
  2. Object oriented (imperative as a subset)
  3. stream
  4. typed

* Operational:- By now what all operations a machine can do, we compute based on what it can do.

* In imperative, we require to know how list implemented (array here). If linked list used, code changes. But functional, doesn't change much

functional is close to declarative compared to imperative.
but logic is closer

* Declarative way ↑ more & more and Operational ↓ more & more as we go up in pyramid of paradigms

* Unit of computations in
  - Imperative → Statements
  - functional → expressions
  - Logic → facts & rules

* It is work of program translator (Interpreter/Compiler)

* Prolog became popular bcz used in AI

* SQL ≡ (sequel) * If FOL known, easier to understand prolog.

* Horn clauses has a head & tail / goal & subgoal

* If you instantiate C with mutrobal

* Game of thrones

* Remember there are 3 terms in lambda calculus & typed lambda calculus
* father(x,y) ⇒ x & y are related by a relation father
* parent(x,y) :- father(x,y) ⇐ | if father ⇒ then parent
* "load" used in Haskel. Similarly ~~X~~ Consult

(Note:- They didn't know .pl means perl also. They thought all are prolog)

If it cannot infer from existing facts, it falls down to "FALSE"

* Many implementations of prolog, sir use "swipl"
* consult(start) true as no error
* grandparent(richard, bran) true (you didn't come out) But parent run, no stop → If enter (alias for.) then stop.

If ; then go further

* parent(ned, who) Capital ⇒ variable → If tries to instantiate variable according to rules seen in this program

If enter, OK.
If ; , it tries more. If ";" given continously, finally gives FALSE

* parent(who, _) gives possibilities
* parent(whol, whod) all pairs given
* Prolog ⇒ Turing complete
  Datalog ⇒ Not turing complete → If some guidelines follows, all programs of Datalog terminate

* assert ⇒ adds a fact

* edit(file) ⇒ to open file

when consult(larger)

* gives warning as larger already defined in interpreter as well