**Data Objects**

1. Atoms –tom,pat,x100,x\_45
2. Numbers-100,1235,300
3. Variables –X,Y,Xval,\_X
4. Structures-day(1,feb,2021),point(10,25)

/\*day(14,july,2021).

day(X,Y,Z).

X = 14,

Y = july,

Z = 2021.\*/

**Atoms**

* Variation of constants
* Any names or objects
* Rules
  + Strings of letters, digits and \_ (underscore)
  + Start with lower case letters
  + If start with capital letters , use ‘’(quotes)

Ex:-azahar

b59

b\_59

‘Abc’

**Numbers**

* Integer numbers can represent
* Normal range of integers -16383 to 16383
* Support for real numbers

**Variables**

* String of letters, digits and underscore
* Start with an upper-case letter or underscore

Ex:-X

Sum

\_15

* \_:- use for anonymous variable

**Comparison Operators**

|  |  |
| --- | --- |
| **Operator** | **Meaning** |
| X > Y | X is greater than Y |
| X < Y | X is less than Y |
| X >= Y | X is greater than or equal to Y |
| X =< Y | X is less than or equal to Y |
| X =:= Y | the X and Y values are equal |
| X =\= Y | the X and Y values are not equal |

**Try………..**

?- 1+2=:=2+1.

true.

?- 1+2=2+1.

false.

?- 1+A=B+2.

A = 2,

B = 1.

?- 5<10.

true.

?- 5>10.

false.

?- 10=\=100.

true.

**\*\***?- 1+2=:=2+1. and ?- 1+2=2+1.

= check ‘1+2’ pattern with ‘2+1’ pattern

=:= check value of each

**Arithmetic Operations**

|  |  |
| --- | --- |
| **Operator** | **Meaning** |
| + | Addition |
| - | Subtraction |
| \* | Multiplication |
| / | Division |
| \*\* | Power |
| // | Integer Division |
| mod | Modulus |

Exercise(arithmetics.pl)

* 100+200=?
* 400-150=?
* 10\*300=?
* 100/30=?
* 100//30=?
* 100\*\*2=?
* 100 mod 30=?