QUESTION:-

Write 20 facts related to any domain

(FOL Facts)

1- All dogs have tail

$\forall x : dogs(x) \longrightarrow Hasfail(x)$

2- Bi Some birds lays eggs

$\exists x : birds(x) \wedge lays(x, eggs)$

3- All animals can move

$\forall x : Animals(x) \longrightarrow can(x, move)$

4- Every Sibling share atleast one parent

$\forall x \forall y : (siblings(x, y) \rightarrow \exists z : parent(z; x) \wedge Paret(z, y)$

5- Grand Parent are the parents of parents

$\forall x \forall y : Grandparent(x, y) \rightarrow \exists z :$

$Parent(z, x) \wedge Parent(z, y)$

6- Fathers are male parents
$\forall x \forall y : Fathers(x, y) \rightarrow Parents(x, y) \wedge male(x)$

7- Children are offspring of their parents
$\forall x \forall y : child(x, y) \rightarrow parent(y, x)$

8- No one can be their own parent
$\forall x \neg Parent(y, x)$

9- All maried couple have a spouse
$\forall x \forall y : Married(x, y) \rightarrow Married(y, x)$

10- Cousins are of the same generation
$\forall x \forall y : cousin(x, y) \rightarrow Generation(x) = Generation(y)$

11- Grandparents are older than grandchildren
$\forall x \forall y : Grandparent(x, y) \rightarrow Age(x) > Age(y)$

12- Parents are older than children
$\forall x \forall y : Parent(x, y) \rightarrow Age(x) > Age(y)$

13- Every student is enrolled in atleast one course
$\forall x \exists y : Enrolled(x, y)$

14- Professor teach course they are qualified for

$\forall x \forall y$ : Teachers $(x, y) \rightarrow$ Qualified $(x, y)$

15- Students can take multiple courses

$\forall x \forall y$ : Enrolled $(x, y) \wedge$ Enrolled $(x, z)$
$\rightarrow (y \neq z)$

16- All courses have unique course code.

$\forall x \forall y$ : Course $(x) \wedge$ Course $(y) \rightarrow (x \neq y) \rightarrow$
Coursedcode $(x) \neq$ Coursecode $(y)$.

17- Moons orbit the planet they belong to

$\forall x, y$ : Hasmoon $(x) \wedge$ Moon $(y) \wedge$ orbit $(y, x)$
$\rightarrow$ orbitingbody $(y, x)$

18- Saturn has numerous moons

Has moons (saturn)

19- All moons are Calestial bodies

$\forall x$ : Moons $(x) \longrightarrow$ Calestial body $(x)$

20- Gas giants are also planets

$\forall x$ : Gas giant $(x) \longrightarrow$ planet $(x)$

$\longleftrightarrow$