Examples
Represent the following in predicate logic:

1- All men are mortal.
2- All birds can fly.
3- All cats have tails.
4- Tom is a cat.
5- All pigs with wings can fly.
6- All pigs either have no wings or can fly.
7- Some men are mortal.
8- Some birds can fly.
9- Some pigs can fly.
10- Some pigs have wings and can fly.
11- There is a person older than all other people.
12- Mary and Jane are sisters.
13- There is mean cat.
14- There is a kid whose father is Bill and whose mother is Hillary.
Solution
1- All men are mortal.
   \( \forall x \ [ \text{man}(x) \rightarrow \text{mortal}(x) ] \)

2- All birds can fly.
   \( \forall x \ [ \text{bird}(x) \rightarrow \text{can \_fly}(x)] \)

3- All cats have tails.
   \( \forall x \ [ \text{cat}(x) \rightarrow \text{have_tail}(x) ] \)

4- Tom is a cat.
   \( \text{Cat}(\text{tom}) \)

5- All pigs with wings can fly.
   \( \forall x[ \text{pig}(x) \land \text{with \_wings}(x) \rightarrow \text{can \_fly}(x)] \)

6- Some men are mortal.
   \( \exists x \ [ \text{man}(x) \land \text{mortal}(x)] \)

7- Some birds can fly.
   \( \exists x \ [ \text{bird}(x) \land \text{fly}(x) ] \)

8- Some pigs can fly.
   \( \exists x \ [ \text{pig}(x) \land \text{fly}(x) ] \)

9- Some pigs have wings and can fly.
   \( \exists x \ [ \text{pig}(x) \land \text{have \_wings}(x) \land \text{fly}(x)] \)

10- There is a person older than all other people.
    \( \exists x \ \forall y \ [ \text{person}(x) \land \text{person}(y) \land \text{order}(x, y) ] \)

11- Mary and Jane are sisters.
    \( \text{Sister}(\text{Mary, Jane}) \)

12- There is mean cat.
    \( \exists x \ \text{Cat}(x) \land \text{Mean}(x) \)

13- There is a kid whose father is Bill and whose mother is Hillary.
    \( \exists x \ \text{Father}(\text{Bill}, x) \land \text{Mother}(\text{Hillary}, x) \)