LAB 8 (19/11/24)

FOL with Unification

- Sentences:

~~[illegible]~~ → If John is a parent of y, John is also ancestor of y

~~[illegible]~~ is a parent of Alice

Y is a parent of Alice

X is in love with Y

John is in love with Z

Bob is a parent of Z

If w is a parent of Jabby, then w is ancestor of Jabby

- FOL

~~[illegible]~~

Parent (Y, Alice)

Loves (X, Y)

Loves (John, Z)

Parent (Bob, Z)

Parent (y) → Ancestor (John, y)

Parent (w, Jaby) → Ancestor (w, Jaby)

- Unification:

→ Unifying sentence ~~2 & 5~~: Parent (Y, Alice), Parent (Bob, Z)

We need Y to unify with X & Alice to unify with Z

Y = Bob

Alice = Z

Sentence 2 becomes Parent (Bob, Alice)

Sentence 5 becomes Parent (Bob, Alice)

} These sentences are now identical

→ Unifying sentences 1 & 6: Parent (John, y) → Ancestor (John, y)

~~[illegible]~~ Parent (w, Jabby) → Ancestor (w, Jabby)

John = w

y = Jabby

Sentence 1 becomes Parent (John, Jabby) → Ancestor (John, Jabby)

Sentence 6 becomes Parent (John, Jabby) → Ancestor (John, Jabby)

} ↓ These are identical

Proceed

Output:

Substitution set: {Y: 'Bob', Z: 'Alice'}

Substitution set: {w: 'John', y: 'Jabby'}

8/11/24