Manual Calculation:

Unification

$\Psi_1 = g(x, a), f(y)$

$\Psi_2 = g(f(b), a), x$

SUBST $\theta = \{f(b)/x\}$

$\Psi_1 = g(x, a), f(y)$

$\Psi_2 = g(x, a), x$

SUBST $\theta = \{f(y)/x\}$

$\Psi_1 = g(x, a), x$

$\Psi_2 = g(x, a), x$

Hence unified

Resolution

i) $\forall x : food(x) \rightarrow like(John, x)$

ii) food(Apple) $\wedge$ food(vegetable)

iii) $\forall x \forall y$; eat $(x, y) \wedge \neg$ killed $(x) \Rightarrow$ food (y)

iv) eats (Anil, peanuts) $\wedge$ alive (Anil)

v) $\forall x$: eats (Anil, x) $\rightarrow$ eats (Harry, x)

vi) $\forall x$: $\neg$ killed $(x) \rightarrow$ alive (x)

vii) $\forall x$: alive $(x) \rightarrow \neg$ killed (x)

viii) likes (John, peanuts)

T.P : John likes peanuts

i) $\forall x$: $\neg$ food $(x) \vee$ like (John, x)

ii) food (Apple) $\wedge$ food (vegetable)

iii) $\forall x \forall y \neg [\text{eats}(x, y) \wedge \neg \text{killed}(x)] \vee \text{food}(y)$

iv) eats (Anil, peanut) $\wedge$ alive (Anil)

v) $\forall x \neg$ eats (Anil, x) $\vee$ eats (Harry, x)

vi) $\forall x \neg (\neg \text{killed}(x)) \vee \text{alive}(x)$

vii) $\forall x \neg$ alive $(x) \vee \neg$ killed (x)

viii) likes (John, peanut)

i) $\neg$ food $(x) \vee$ like (John, x)

ii) food (Apple)

iii) food (vegetable)

iv) $\neg$ eats $(y, z) \vee$ killed $(y) \vee$ food (z)

v) eats (Anil, peanut)

vi) Alive (Anil)

vii) $\neg$ eats (Anil, w) $\vee$ eats (Harry, w)

viii) killed $(g) \vee$ alive (g)

ix) $\neg$ alive $(k) \vee \neg$ killed (k)

¬ likes (John, peanut)

¬ food (x) ∨ like (John, x)
{peanut / x}

¬ food (peanut)

¬ eat (y, z) ∨ killed (y) ∨ food (z)
{peanut / z}

¬ eats (y, peanut) ∨ killed (y)

eats (Anil, peanut)
{Anil / y}

killed (Anil)

¬ alive (k) ∨ ¬ killed (k)
{Anil / k}

¬ alive (Anil)

alive (Anil)

{ }

Hence Proved