

Problem 1: Expressing First-Order Logic

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b

$\neg \text{Wrote}(\text{Gershwin}, \text{EleanorRigby})$

c

$\text{Wrote}(\text{Gershwin}, \text{TheManILove}) \vee \text{Wrote}(\text{McCartney}, \text{TheManILove})$

d

$\exists s \text{ Wrote}(\text{Joe}, s)$

h

$\forall s \text{ Wrote}(\text{Gershwin}, s) \Rightarrow \exists p, a \text{ Sings}(p, s, a)$

j

$\exists a, d \text{ Sings}(\text{BHoliday}, \text{TheManILove}, a) \wedge \text{CopyOf}(d, a) \wedge \text{Owns}(\text{Joe}, d)$

l

$\forall a (\forall s \text{ Sings}(\text{BHoliday}, s, a)) \Rightarrow \exists d \text{ Copyof}(d, a) \wedge \text{Owns}(\text{Joe}, d)$