Signature: $\langle\langle zero^0, succ^1, *^2\rangle, \langle even^1, odd^1, =^2\rangle\rangle$

$F = \forall x.\ even(x) \rightarrow odd(succ(x))$

any model for the above signature will be of the form:

$M = \langle D, \langle F_{zero}, F_{succ}, F_*\rangle, \langle R_{even}, R_{odd}, R_=\rangle\rangle$

where $F_{zero} \in D$ $\quad R_{even} \subseteq D^1$

$F_{succ} \in D^1 \rightarrow D$ $\quad R_{odd} \subseteq D^1$

$F_* \in D^2 \rightarrow D$ $\quad R_= \subseteq D^2$

Here is an example of such a model

Pick $D = \mathbb{N}$

$F_{zero} = 0$ $\in \mathbb{N}$

$F_{succ} = \langle n\rangle \mapsto n+1$ (which we write as $+1$) $\in \mathbb{N}^1 \rightarrow \mathbb{N}$

$F_* = \langle n,m\rangle \mapsto n \times m$ (which we write as $*$) $\in \mathbb{N}^2 \rightarrow \mathbb{N}$

$R_{even} = \{\langle 0\rangle\}$ $\subseteq \mathbb{N}^1$

$R_{odd} = \emptyset$ $\subseteq \mathbb{N}^1$

$R_= = \emptyset$ $\subseteq \mathbb{N}^2$

we call this model M_2: $M_2 = \langle \mathbb{N}, \langle 0, +1, *\rangle, \langle\{\langle 0\rangle\}, \emptyset, \emptyset\rangle\rangle$

According to a model of the form M, the meaning of F is:

for all $n \in D$, if $\langle n\rangle \in R_{even}$ then $\langle F_{succ}\langle n\rangle\rangle \in R_{odd}$

Therefore the meaning of F according to M_2 is:

for all $n \in \mathbb{N}$, if $\langle n\rangle \in \{\langle 0\rangle\}$ then $\langle n+1\rangle \in \emptyset$ $\leftarrow$ by replacing $D \rightsquigarrow \mathbb{N}$, $R_{even} \rightsquigarrow \{\langle 0\rangle\}$, $R_{odd} \rightsquigarrow \emptyset$, $F_{succ} \rightsquigarrow +1$

which is equivalent to

for all $n \in \mathbb{N}$, if $n=0$ then $n+1 \in \emptyset$

which is false: take $n=0$, $n+1$ is not in $\emptyset$ (nothing is in $\emptyset$)