The counter example of Jacobson conjecture

T.Nakashima
E-mail address
tainakashima@mbr.nifty.com

July 28, 2016

1

Definition 1.1. (*Jacobson radical*) *In some ring R,all element makes all left side R-module {0} by multipliing is called Jakobson radical.*

Later,R is Noetherian ring.
Jacobson conjecture
Jacobson radical J satisfies $\bigcap_{n\in\mathbb{N}} J^n = \{0\}$.

Theorem 1.1. *If J is not nilpotent ideal,Jacobson conjecture is not satisfied.*

proof. J's rank is N.J's generator is $\alpha_1, \alpha_2, \cdots, \alpha_N$. J^2's element is already Included in J.$J^2 \neq \{0\}$, this element is taken as not 0. J^3's element is also Included in J.We call this element j. j is the sum of multiple J's element and J's element.So this element included in J^2.So J is not nilpotent ideal,$\bigcap_{n\in\mathbb{N}} J^n \neq \{0\}$ .Jacobson conjecture is not satisfied. □