

# 代数IB宿題7

2015-5-29

1. Decompose  $M_n(k)$  under the conjugation action of  $GL_n(k)$  into weight spaces for the subgroup  $T$  of diagonal matrices. For notation, let  $\alpha_i$  denote the generator of  $X(T)$  that extracts the  $(i, i)$ -entry of  $T$ .

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