c) $\phi(\vec{x}) = \begin{bmatrix} \vdots \\ \sqrt{3}\, x_i^2 \sqrt{\beta} \\ \vdots \\ \sqrt{6}\, x_i x_j \beta \\ \vdots \\ x_i^3 \sqrt{\beta^3} \\ \sqrt{3}\, x_i^2 x_j \sqrt{\beta^3} \\ \vdots \\ \sqrt{6}\, x_i x_j x_k \sqrt{\beta^3} \\ \vdots \end{bmatrix}$

The role of the parameter β is to scale each element of the feature vector $\phi(\vec{x})$. For smaller combinations, the β is raised to a smaller power, and vice versa for larger combinations. ~~[ ]~~

If $0 < \beta < 1$, it can be used to punish larger combinations in the feature vector.