data

target

x	y

100

data[?, 0]

100

0
0
0
.
.
.
1
1

svm kernel. (kernel trick)

(i) Linear

(ii) Polynomial ✓ → $ax^n + by^m$

(iii) Radial bias ✓ → $e^{-(x^2 + y^2)}$

(iv) Sigmoid ✓

(v) Hyperbolic tangent (tanh)

polynomial kernel

$$z = a_1 x + a_2 x^2 + a_3 y + a_3 y^2 + C$$

$$degree = 2$$