**Chart, scatter chart

Description automatically generatedSection 1.1**

**Section 1.2**

1: in my example, for each class there is one support vector

2: The shape of the decision boundary is linear

**Chart, scatter chart

Description automatically generatedSection 1.3**

**Section 1.4**

1: gamma = default has 3 support vectors, gamma = 0.2 has 11 and gamma = 2 has 33 support vectors

2: gamma = default has a linear decision boundary, gamma = 0.2 and gamma = 2 both have nonlinear decision boundaries

3: “With greater gamma comes a greater number of support vectors” – Uncle Ben (2022), probably

**Chart, scatter chart

Description automatically generatedSection 1.5**

**Section 1.6**

1: c=1000 has 3 support vectors, c=0.5 has 3, c=0.3 has 4, c=0.05 has 8 and c=0.0001 has 40 support vectors

2: c=1000 has 0 support vectors within the margins, c=0.5 has 0, c=0.3 has 1, c=0.05 has 5 and c=0.0001 has 40 support vectors within the margins

3: No all of the support vectors are rightly classified

**Section 2.2**

Linear Kernel function seems to be the best for the task. It is generally better at predicting when it comes to binary-classification and therefore it should perform better.