**Artificial Intelligence**

**Homework 2**

Akshara Boppidi

**Solution for 3.2:**

For sep = 0, Number of iterations are 171.



For sep = 0.2, Number of iterations are 143.



For sep = 0.4, Number of iterations are 57.



For sep = 0.6, Number of iterations are 51.



For sep = 0.8, Number of iterations are 43.



For sep = 1.0, Number of iterations are 25.



For sep = 1.6, Number of iterations are 27.



For sep = 2, Numbers of iterations are 13.



For sep = 2.6, Number of iterations are 7.



For sep = 3.6, Number of iterations are 5.



For sep = 4, Number of iterations are 7.



For sep = 4.6, Number of iterations are 5.



For sep = 4.8, Number of iterations are 3.



For sep = 5, Number of iterations are 3.



**Observations:**

We can observe the number of iterations are reducing when we increase the separation sep ≥ 0, from range 0.2, 0.4….5. As, the distance between two semi circles increases the change of being linearly separable is more with less iterations.