In [43]:

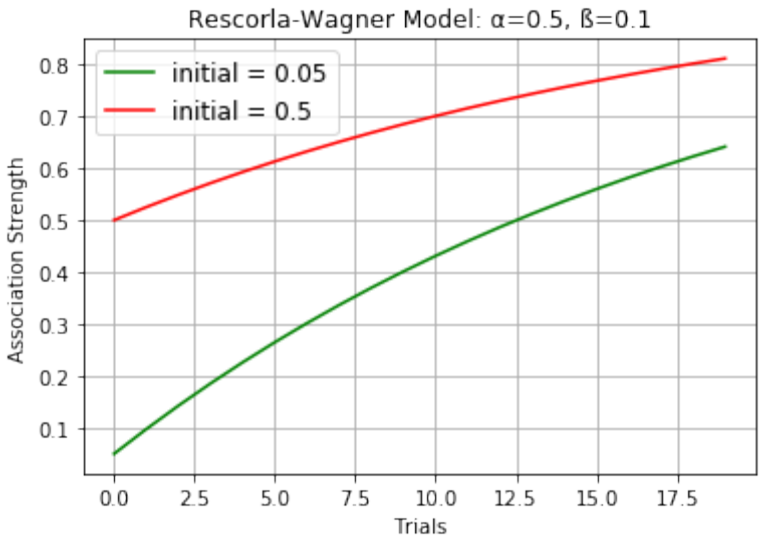
```
import numpy as np
import matplotlib
import matplotlib.pyplot as plt

#FUNCTION: reswag(num_trials, init_assoc)
#calculates Rescorla-Wagner equation for #'num_trials' trials
#'init_assoc' = initial association value
#returns a list 'strength' of all association strengths for 20 trials

def reswag(init_assoc, num_trials, alpha, beta):
    strength = []
    strength.append(init_assoc)
    counter = 0
    for counter in range(num_trials - 1):
        strength.append(strength[counter] + (alpha*beta*(1-strength[cou
    return strength

alpha = 0.5
beta = 0.1
x = np.arange(0, 20)
y1 = reswag(0.05, 20, alpha, beta)
y2 = reswag(0.5, 20, alpha, beta)

plt.plot(x, y1, color = 'green', label = 'initial = 0.05')
plt.plot(x, y2, color = 'red', label = 'initial = 0.5')
plt.title('Rescorla-Wagner Model: α=0.5, ß=0.1')
plt.xlabel('Trials')
plt.ylabel('Association Strength')
plt.legend(fontsize = 12)
plt.grid(True)
plt.show()
```



In [65]:

```
import numpy as np
```