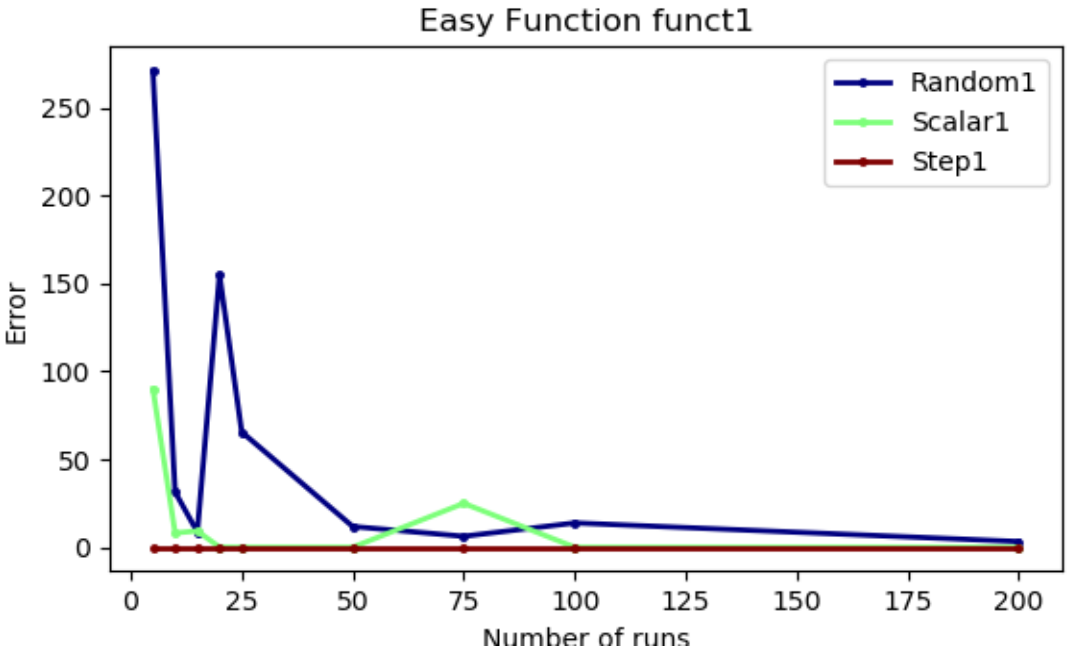
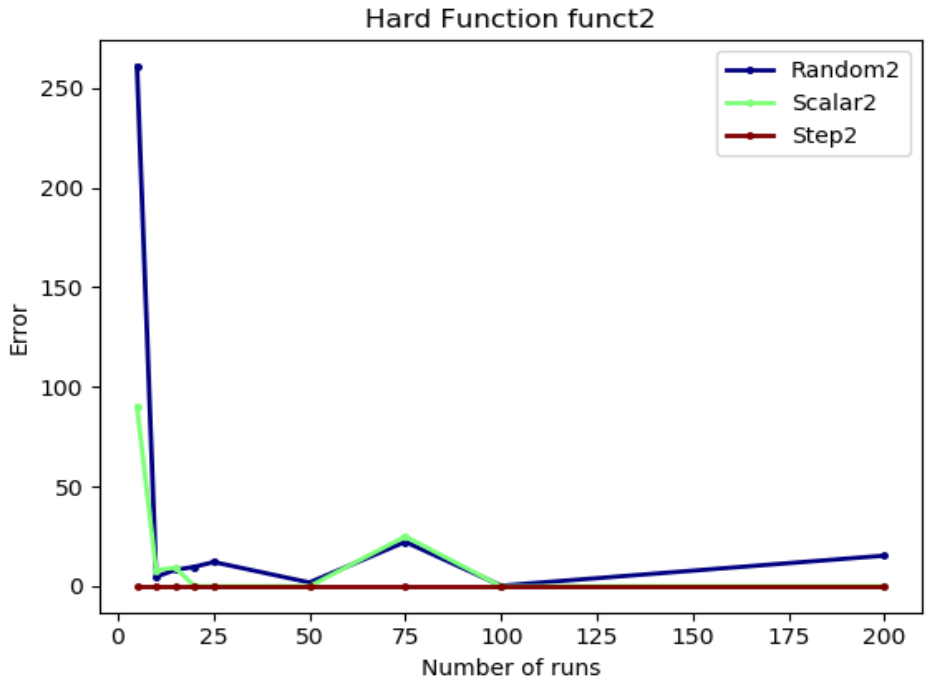
Graphs for optimize.py:

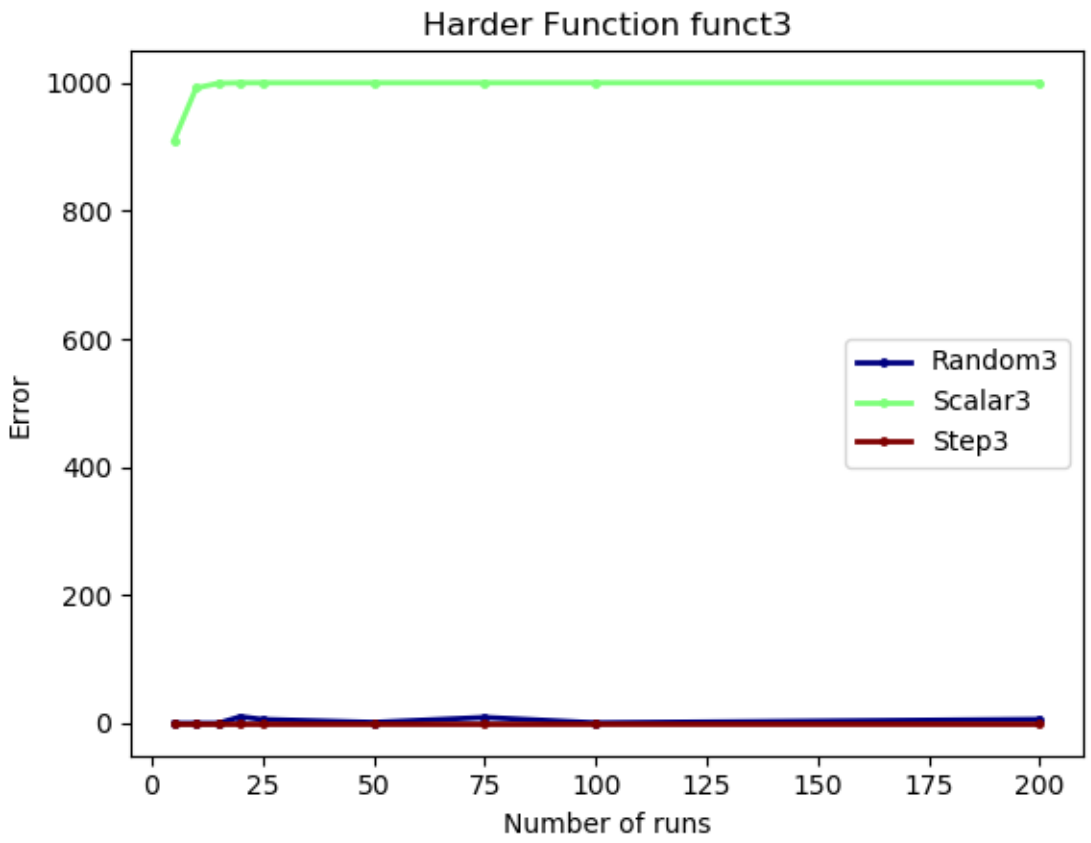
Easy function: x^2



Hard Function: x**3 - (4*x**2) + (6*x) + 5



Harder Function: 1/np.sqrt(2*np.pi))*np.exp(-(x**2)/2



For this function, I don't know why but for some reason the built-in- optimizer wasn't performing well and there was a constant and large approximation error. Maybe because in this case the lower the x value the larger was the value of the function.

Graph for integrate.py: