

- a) i) 2 variables assigned
 ii) loop that loops n times
 iii) variable being assigned n times, (result + s) n times
 iv) return

This results in $2n + nx + 3$, where x denotes the order of (result+s). This means this function is of complexity order $T(n)$.

b)

Order	Speed /s (4 s.f.)
T(1)	3.640×10^{-7}
T(100)	2.309×10^{-5}
T(1,000)	0.001465
T(10,000)	0.1011

Ignoring $T(1)$ to $T(100)$, the increase to the next order class is 10 but the speed increases by 100 (10^2). A good guess for the order of this function is of $\Theta(n^2)$

c)

Order	Speed /s (4 s.f.)
T(1)	3.272×10^{-7}
T(100)	4.441×10^{-6}
T(1,000)	4.501×10^{-5}
T(10,000)	3.309×10^{-4}

Again ignoring $T(1)$ to $T(100)$, as the 10^{th} power increases by 1 in each it's a good assumption that this function is of $\Theta(n)$