

Q2-2)

$$\log_2(n) < 2\sqrt{\log_2(n)} < \sqrt{2n} < n^{2.5} < 10^n < n^n$$

We know from our big O analysis that the growth rates of functions goes logarithmic, linear, polynomial, exponential

- $\log_2(n)$ is the slowest. It is slower than $2\sqrt{\log_2(n)}$ due to the fact we are doubling the latter
 - Next we move onto the linear function (sqrt of linear) $\sqrt{2n}$
 - Next is the polynomial $n^{2.5}$
 - Next are the exponential functions, $n^n > 10^n$ for all $n > 10$
- So