CS 104

$1n + 2n + \dots - 1nn$

$n(\frac{1+n}{2})$

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Part A: int i=2, each loop i squares itself 2^L

This function will have i grow ^{int} with 2^{2L} where L is the loop number

number $2^{2L} = n$ $\boxed{\Theta = \lg \lg n}$ $\Theta(\log \log N)$
of loops
          number

Part B: if statement only hits when i divisible by sqrt of n
                                                              $\sqrt{n}$
          $\Theta = \sqrt{n} \cdot n^3 = \boxed{\Theta = n^{7/2}}$ $n \times$
                                                      $\sqrt{n}^3 + 2\sqrt{n}^3 + \dots \sqrt{n} \cdot \sqrt{n}^3$
                                                      $\frac{(1+\sqrt{n})}{2} \sqrt{n}^3$
Part c: confusing, how do I know if A[k] == i ? $\frac{\sqrt{n} \cdot n^2}{2}$

          if there were no if statement, or if we assume if statement
          returns true every time.

          $\Theta = n^2 \log n$

Part d: outer loop running in n, inner loop for loop runs
          to size variable, size increases be $\frac{3}{2}i$ so inverse
          is $\log_{3/2} n$

               $\Theta = n \cdot \log_{3/2} n$ $\frac{3 \times size}{2}$

          $n \times$ $\frac{3s}{2}$