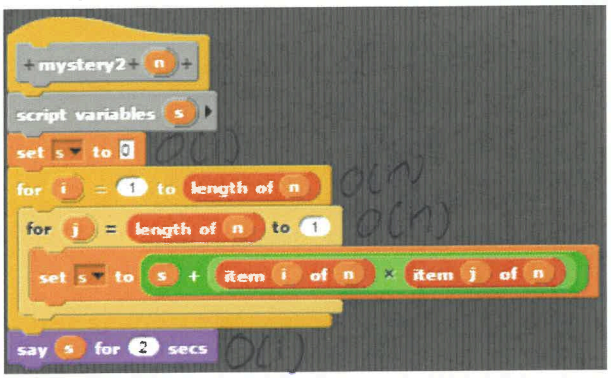
4.2 Big-O Notation Worksheet

1. Consider the following Edgy code, and decide which time complexity {(O(1) , O(logn) , O(n) , O(nlogn), $O(n^2)$, $O(n^3)$, $O(2^n)$, $O(n!)$} would best fit each example giving reasons for your conclusion. Also, write down a 1 or 2 sentence description for each mystery block stating what it does (without executing the code).

Example A: mystery2 block

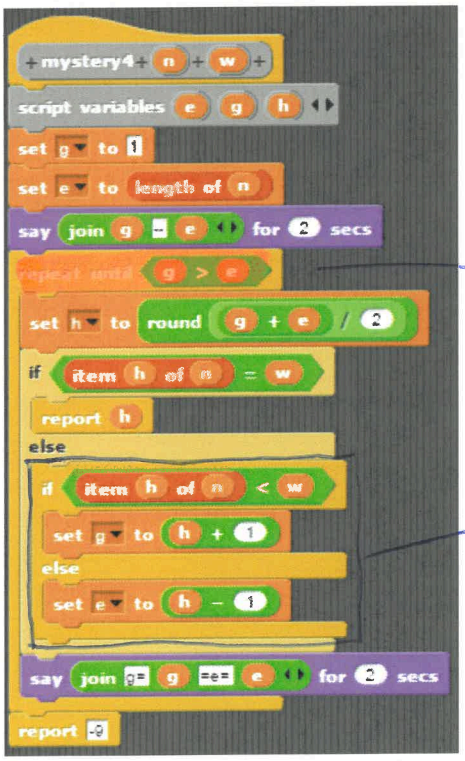


$f(x) = n^2 + 2$
$\therefore O(n^2)$

Multiplys each term i, by every other term j and then sums each product, storing the total in s

eg: input [3, 7, 4]
~~output 3×3+3+7+3×4~~
output 5320

Example B:



~~O(n)~~
~~2 pointer linear search~~
O(log(n))

O(n)

Moves each pointer 1 space closer to the target each iteration