TCSS 343 - Week 0

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Recursion

1. Benin is a fisherman who is simply good at fishing. One day, he finds a nice place to go fishing with two ponds. Moving from the $i-th$ fish-pond (the one he starts at) to the $j-th$ fishpond would cost $|i-j|$ units of time. Initially Benin can get F_i fish in the $i-th$ fishpond. In the next turn at the same fishpond, the amount of fish he can get is decreased by D_i. Notice that Benin will not get negative amount of fish. Each turn of fishing takes Benin 1 unit of time if Benin is at that pond and $|i-j|$ units of time to switch.

For example, if $F_1 = 10$, $F_2 = 5$, $D_1 = 2$, $D_2 = 3$ and Benin can fish for up to eight units of time, then he will get $10 + 8 + 6 + 5 + 4 = 33$. Washington Department of Fish and Wildlife (WDFW) requires that Benin switch to the adjacent pond when it has more fish and he cannot fish for "negative" fish. Write a recursive algorithm to see how many fish Benin can fish for!