

28 Jan '25

→ If-else examples (from last HW)

→ check cases where your logic fails, edge/boundary cases

→ not (x and y)

= not x or not y

→ To determine minimum coin denominations for 'change' in

currency — "Greedy" approach

Greedy approach uses largest valued coins first.

This solution works for US currency
but not for other coin systems.
(see notes document
on examples)

HW: Come up ^{with} 5 examples of coin
systems and minimum number
of coins where greedy approach
fails

Eg: Coin system - 12, 5, 1
Change for 15 cents - Greedy solution
gets 4 coins
while best solution is
3 coins (3 cent
coins)

Truth tables: It's a table that explains what happens to boolean values ^(expressions) when using some operators on boolean variables.

x	y	x and y	x or y	not x	not y
true	true	true	true	false	false
true	false	false	true	false	true
false	true	false	true	true	false
false	false	false	false	true	true

HW: Write truth table for the following

(1) $(x \text{ and } \sim y) \text{ or } (\sim x \text{ or } y)$

(2) $\sim (x \text{ and } y) \text{ or } \sim (x \text{ or } y)$

\sim = not

(3) $\sim x$ or $\sim(x \text{ and } y)$ and $(x \text{ or } \sim x)$
see \downarrow operator precedence

Eg:

x	$\sim x$	$x \text{ and } \sim x$	$x \text{ or } \sim x$
true	false	false	true
false	true	false	true

HW: Solve AI generated HW problems on truth tables.

→ Started learning loops, types, examples
HW: See multiplication tables & loop examples code from earlier.