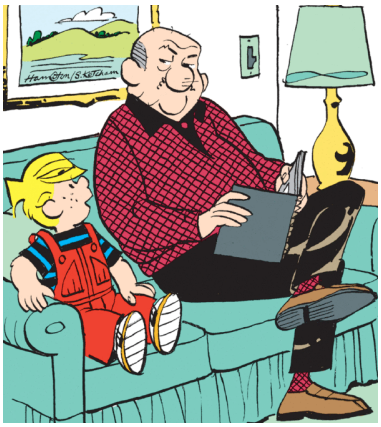
Lab 10 - Assignment
Recursion
CS 112 – Summer 2022

Description



Dennis the menace likes to visit Mr. Wilson's house, but sometimes accidentally causes minor damage to his house (breaks a vase, spills paint cans, etc.).

Dennis' dad wants him to take responsibility for the damage and tells he must pay a flat fee every Sunday until he pays off the debt.

Mr. Wilson gives Dennis a note of how much it costs to repair the damage. *Every time Dennis pays a fee, Mr. Wilson hands him a new note indicating how much is left to pay.* The debt is paid when Dennis receives a note with $0.

Assume:

- Dennis debt as well as his fee are always specified in dollars not including cents (`int`)
- debt is >=1
- Dennis fee is <u>at least</u> **$1** and <u>at most</u> **the original debt**
- If the last fee is greater than the current debt, the note is $0 and not negative values.

Inquire:

- Dennis debt and Dennis fee

Requirements:

- Implement recursion to update the debt based on the fee

Function signature**:**

```
def update_debt(debt, fee):
```

Output:

- The debt that is written on each note that Mr. Wilson gives Dennis

Examples:

```
update_debt(20, 10)   →   20   10   0
update_debt(11, 2)    →   11   9    7    5    3    1    0
update_debt(5, 5)     →   5    0
```

Allowed things:

- Any arithmetic operators are fine
- Any relational operator: `<, <=, ==,` etc.
- Branching: `if, if-else, if-elif-else`
- These functions `input(), print(), str(), int()`

Disallowed things:

- You are not allowed to use any loops (for, while)
- You are not allowed to import anything
- You are not allowed to use any features not covered in lecture yet
- No hard coding