19.1.15. `email.iterators`: Iterators

Source code: Lib/email/iterators.py

Iterating over a message object tree is fairly easy with the `Message.walk` method. The `email.iterators` module provides some useful higher level iterations over message object trees.

`email.iterators.`**`body_line_iterator`**(*msg*, *decode=False*)

This iterates over all the payloads in all the subparts of *msg*, returning the string payloads line-by-line. It skips over all the subpart headers, and it skips over any subpart with a payload that isn't a Python string. This is somewhat equivalent to reading the flat text representation of the message from a file using `readline()`, skipping over all the intervening headers.

Optional *decode* is passed through to `Message.get_payload`.

`email.iterators.`**`typed_subpart_iterator`**(*msg*, *maintype='text'*, *subtype=None*)

This iterates over all the subparts of *msg*, returning only those subparts that match the MIME type specified by *maintype* and *subtype*.

Note that *subtype* is optional; if omitted, then subpart MIME type matching is done only with the main type. *maintype* is optional too; it defaults to *text*.

Thus, by default `typed_subpart_iterator()` returns each subpart that has a MIME type of *text/**.

The following function has been added as a useful debugging tool. It should *not* be considered part of the supported public interface for the package.

`email.iterators.`**`_structure`**(*msg*, *fp=None*, *level=0*, *include_default=False*)

Prints an indented representation of the content types of the message object structure. For example:

```
>>> msg = email.message_from_file(somefile)
>>> _structure(msg)
multipart/mixed
    text/plain
    text/plain
    multipart/digest
        message/rfc822
            text/plain
        message/rfc822
```

```
            text/plain
        message/rfc822
            text/plain
        message/rfc822
            text/plain
        message/rfc822
            text/plain
    text/plain
```

Optional *fp* is a file-like object to print the output to. It must be suitable for Python's `print()` function. *level* is used internally. *include_default*, if true, prints the default type as well.