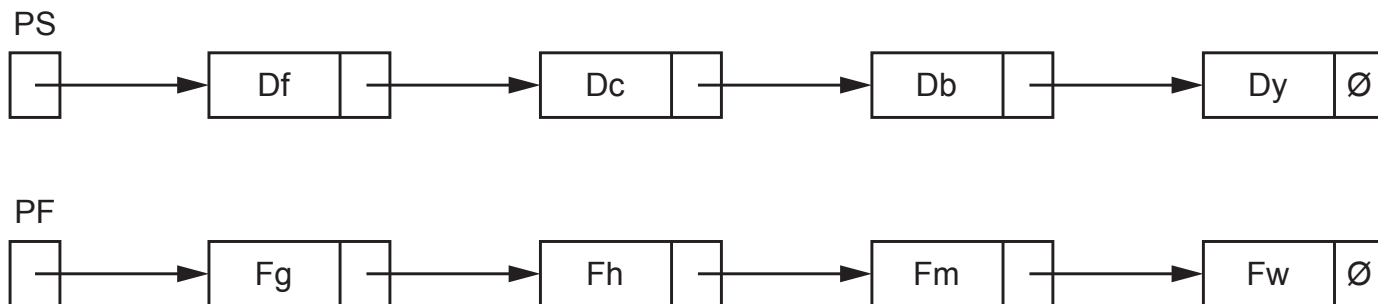


3 The diagram shows an Abstract Data Type (ADT) representation of a linked list after data items have been added.

- PS is the start pointer.
- PF is the free list pointer.
- Labels Df, Dc, Db and Dy represent the data items of nodes in the list.
- Labels Fg, Fh, Fm and Fw represent the data items of nodes in the free list.
- The symbol \emptyset represents a null pointer.



(a) Describe the linked list immediately after initialisation, before **any** data items are added.

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..... [3]

(b) A program will be written to include a linked list to store alphanumeric user IDs.

The design uses two variables and two 1D arrays to implement the linked list. Each array element contains data of a single data type and **not** a record.

The statements below describe the design.

Complete the statements.

The two variables will be of type

The two variables will be used as to the arrays.

The values stored in the two variables will indicate

The first 1D array will be of type

The first 1D array will be used to

The second 1D array will be of type

The second 1D array will be used to