

Record Datatype And Structured English



Papers Dock

COMPUTER SCIENCE 9618 PAPER 2

Emp No	Name	Age	Department	Salary
001	Alex S	26	Store	5000
002	Golith K	32	Marketing	5600

If you want to store a complete record in a single variable name we use the concept of record datatype

Record DataType

The Record datatype is a data structure used in computer programming that allows the storage of multiple values of different data types under a single variable name.

Pseudocode For Record

TYPE NameOfDatatype

DECLARE Value1 : DATATYPE

DECLARE Value2 : DATATYPE

DECLARE Value3 : DATATYPE

ENDTYPE

Question

**Bookinformation is the name of record datatype
It contains**

title : String

ISBN : Integer

Author : String

```
TYPE Bookinformation
    DECLARE Title : STRING
    DECLARE ISBN : INTEGER
    DECLARE Author : STRING
ENDTYPE
```

Question

**Create a variable with the name Book1
and datatype Bookinformation**

Title : Papersdock

ISBN : 1027554

Author : Taha

A company stores bookings in a random file.

For each booking, the booking ID, customer ID, item ID and quantity are stored. These four values are all integers.

(a) Write the **pseudocode** record declaration for the data type *Booking*.

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..... [2]

1 mark each:

- **booking** record declaration (and end) ...
- ... defining all 4 fields with integer data types

```
TYPE Booking
  DECLARE BookingID : INTEGER
  DECLARE CustomerID : INTEGER
  DECLARE ItemID : INTEGER
  DECLARE Quantity : INTEGER
ENDTYPE
```

Data types can be defined using pseudocode.

The data type, `LibraryRecord`, is defined in pseudocode as:

```
TYPE LibraryRecord
    DECLARE Title : STRING
    DECLARE Fiction : BOOLEAN
    DECLARE Author : STRING
    DECLARE NumberOfCopies : INTEGER
ENDTYPE
```

A variable, `LibraryBook`, is declared in pseudocode as:

```
DECLARE LibraryBook : LibraryRecord
```

(a) Write **pseudocode** statements to assign:

- A Level Computer Science to Title of `LibraryBook`
- FALSE to Fiction of `LibraryBook`.

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..... [2]

```
LibraryBook.Title ← "A Level Computer Science"
LibraryBook.Fiction ← FALSE
```

Structured English

Structured English is the use of language with the syntax of structured programming to communicate the design of Computer Program to non technical users by breaking it down into logical steps using English Words

```
count <---- 0
FOR X <---- 1 TO 100
    IF Array[X] = "Empty"
        THEN
            count <---- count + 1
        ENDIF
    ENDFOR
OUTPUT (count)
```

Initialize count to zero
loop 100 times
compare an element with "Empty" in a loop
Increment the count if equal in a loop
output a message together with the count not inside the loop