

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 **python** record declaration for the data type `Booking`.

(b) Each booking ID is a value between 100 000 and 999 999 inclusive.

The hash value is calculated by dividing the booking ID by 100 000 and adding 3 to the remainder.

(i) The function `Hash()` takes the booking ID as a parameter, calculates and returns the hash value.

Write **program code** for the function `Hash()`.

(ii) Calculate the hash value for each booking ID in the table.

Booking ID	Hash value
5012345	
8212350	

(c) The function `StoreBooking()` takes a record as a parameter and stores it in the random file `TheBookings.dat`. The function uses `Hash()` to calculate the hash value for that record. The record is only stored if the value at the hashed value is `NULL`.

`FALSE` is returned if there is already a record in that location and `TRUE` otherwise.

You can assume that the file exists.

Write **python code** for the function `StoreBooking()`.