

Unit 6 - Assignment 2 - Task 2b

Benefits of using a multitude of datatypes

Using many datatypes is useful to developers as it makes it easy to perform tasks on variables that would require more, and more complex code to have performed otherwise. This saves a lot of time, and improves the quality of code. An example of this is if we had two dates, say a date of registration and a date of birth. To calculate the age of the person at registration if the datatypes are 'date', we can simply subtract the dates from each other. If we did not use the correct type, and selected string instead, it would take more complex programming to convert the date in a string form into a number that we can work with, and then we'd have to format it back into string format. As you can imagine, this is a very laborious way of doing things, and it saves a lot of time and effort if we use the correct datatypes when writing our code.

Users Table

Field Name	Type	Length	Notes	Required	Type Justification	Length Justification
Customer ID	int	Auto	Used to identify the user and make sure that no two users get confused	Yes	The data will always be an integer	The data will increment automatically
First name	Char	50	The first name of the user	Yes	First name is a string, and therefore should use char type	50 should be sufficient to fit a reasonable length name.
Second name	Char	50	The second name of the user	Yes	Second name is also as string and should also be given char type	50 should be a suitable amount of character for any reasonable second name.
Telephone	Char	11	Used for emergencies	Yes	A telephone number will almost never be used in a mathematical calculation and therefore it is illogical to be stored as an integer.	11 is the length of a standard phone number.
Title	Char	5	For storing the customer's title	Yes	A title is a string as only letters and symbols are used.	5 is the longest a title can be including the '.' at the end.

Field Name	Type	Length	Notes	Required	Type Justification	Length Justification
DOB	Date	13	Store date of birth to verify age	Yes	Date as storing dates as time allows you to perform multiple processes on it, such as taking it away from the current date to get the user's age	If the time is stored in the UNIX time format, then 13 bytes should last a long time
Provisional #	Char	19	Used to sign up for driving tests	Yes	It is a Char type as it made of both characters and numbers	Length is the same as that on the licence.
Address	Char	100	User's address	Yes	Address contains letters, numbers, and symbols	100 chars should fit any address
Email	30 Char		Used to contact the user and confirm payments	Yes	An email can contain numbers, letters, and symbols.	30 chars should fit any email address
Gender	Boolean	Fixed	The gender of the user	No	There can only be one of two values	Boolean values have a fixed length

Bookings Table

Field Name	Type	Length	Notes	Required	Type Justification	Length Justification
Lesson ID	Int	Auto	Gives to the row to represent it's uniqueness	Yes	The data will always be an integer	The data will increment automatically
Customer ID	Int	Auto	Represents the user involved in the lesson	Yes	The data will always be an integer	The data will be imported from another table
Instructor ID	Int	Auto	Represents the instructor involved in the lesson	Yes	The data will always be an integer	The data will be imported from another table
Pickup address	Char	12	Address to pick up at	Yes	The data contains alpha numeric characters	The field will only contain an house number or name
Pickup postcode	Char	7	Postcode to pick up at	Yes	The data contains alpha numeric characters	An UK postcode is 7 characters long, not including the space
Dropoff address	Char	12	Address to drop off at	Yes	The data contains alpha numeric characters	The field will only contain an house number or name
Dropoff postcode	Char	7	Postcode to drop off at	Yes	The data contains alpha numeric characters	An UK postcode is 7 characters long, not including the space

Field Name	Type	Length	Notes	Required	Type Justification	Length Justification
Date Time	DateTime	8	Date and time of the lesson	Yes	The data represents a time and date	DateTime fields occupy 8 bytes of space