

## Logical Definition of Domains

### Number

Description: Integers greater than zero.

Datatype: Integer

Format: 1

### Address

Description: Valid addresses which include the street name and number, city, state, and zip code.

Datatype: String of variable length

Format: 1717 Ford Lane Missoula, MT 59808

### First Name

Description: First names of individuals.

Datatype: String of variable length

Format:

### Last Name

Description: Last names of individuals.

Datatype: String of variable length

Format:

### USA Phone Number

Description: Valid 10-digit phone numbers in the United States.

Datatype: String of fixed length 10

Format: (ddd)ddd-dddd

### Email Address

Description: Valid Email Addresses.

Datatype: String of variable length

Format: c...c@c...c.ccc

### Date

Description: Dates with month, day, and year.

Datatype: Date

Format: YYYY-MM-DD

#### Time

Description: Time with hour, minute, and second.

Datatype: Time

Format: hh:mm:ss

#### Note

Description: Notes made by customers or employees.

Datatype: String of variable length

Format: Any

#### Current State

Description: The current state of some object. These are pending, rejected, and approved.

Datatype: String of variable length

Format: Approved, Rejected, Pending

#### Boolean

Description: A Boolean to indicate a specific attribute.

Datatype: Boolean

Format: True or False

#### Street Address

Description: Steet number and name of a valid address

Datatype: String of variable length

Format: 1717 Ford Lane

#### City

Description: City Name of a valid address

Datatype: String of variable length

Format: Missoula

#### USA State

Description: State abbreviation of a valid address

Datatype: String of fixed length 2

Format: MT or cc

#### Zip Code

Description: 5 digit zip code of a valid address.

Datatype: String of fixed length 5

Format: 59808 or ddddd

#### Name

Description: Name of some thing

Datatype: String of variable length

Format: cccc..cccc

#### Price

Description: Price of some object or service in US dollars

Datatype: Decimal with two digits after the decimal point and a total precision of 14

Format: dd.dd

#### Middle Initial

Description: Middle Initial of a person

Datatype: String of fixed length 1

Format: c

#### Password

Description: The password of someone for their account

Datatype: String of variable length

Format: cccc...cccc

#### VIN Number

Description: VIN number of a vehicle

Datatype: String of fixed length 17

Format: ccccccccccccccc

License Plate Number

Description: License Plate number of a vehicle

Datatype: String of variable length

Format: cccccc

Year

Description: Year

Datatype: Year

Format: YYYY

Make

Description: Make of vehicle

Datatype: String of variable length

Format: cccccc

Model

Description: Model of a vehicle

Datatype: String of variable length

Format: cccccc

Day Number Week

Description: Days from either 1 to 7

Datatype: Integer

Format: nn

Day Number Two Weeks

Description: Days from either 1 to 14

Datatype: Integer

Format: nn

### **Domains of Attributes**

Customer Relation:

dom(Customer\_num) = Number  
dom(Cust\_billing\_address) = Address  
dom(Cust\_first\_name) = First Name  
dom(Cust\_last\_name) = Last Name  
dom(Cust\_phone\_num) = USA Phone Number  
dom(Cust\_email) = Email Address

Quote Relation:

dom(Quote\_number) = Number  
dom(Quote\_number) = Number  
dom(Quote\_address) = Address  
dom(Quote\_state) = Current State  
dom(Date\_of\_creation) = Date  
dom(Start\_available) = Date  
dom(End\_available) = Date  
dom(Quote\_employ\_note) = Note  
dom(Quote\_cust\_note) = Note  
dom(Customer\_num) = Number

Invoice Relation:

dom(Invoice\_number) = Number  
dom(Invoice\_address) = Address  
dom(Invoice\_date) = Date  
dom(Invoice\_paid) = Boolean  
dom(Customer\_num) = Number

Job Relation:

dom(Job\_number) = Number  
dom(Job\_date) = Date  
dom(Job\_Time) = Time

$\text{dom}(\text{Street\_address}) = \text{Street Address}$

$\text{dom}(\text{City}) = \text{City}$

$\text{dom}(\text{State}) = \text{USA State}$

$\text{dom}(\text{Zip\_code}) = \text{Zip Code}$

$\text{dom}(\text{Job\_completed}) = \text{Boolean}$

$\text{dom}(\text{Job\_employ\_note}) = \text{Note}$

$\text{dom}(\text{Job\_cust\_note}) = \text{Note}$

$\text{dom}(\text{Customer\_num}) = \text{Number}$

Service Relation:

$\text{dom}(\text{Service\_name}) = \text{Name}$

Special Equipment Relation:

$\text{dom}(\text{Equip\_num}) = \text{Number}$

$\text{dom}(\text{Equip\_name}) = \text{Name}$

$\text{dom}(\text{Equip\_quantity}) = \text{Number}$

$\text{dom}(\text{Equip\_price}) = \text{Price}$

$\text{dom}(\text{Equip\_note}) = \text{Note}$

Employee Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Emp\_first\_name}) = \text{First Name}$

$\text{dom}(\text{Emp\_mid\_initial}) = \text{Middle Initial}$

$\text{dom}(\text{Emp\_last\_name}) = \text{Last Name}$

$\text{dom}(\text{Emp\_address}) = \text{Address}$

$\text{dom}(\text{Emp\_email}) = \text{Email Address}$

$\text{dom}(\text{Emp\_phone\_num}) = \text{USA Phone Number}$

$\text{dom}(\text{Emp\_password}) = \text{Password}$

$\text{dom}(\text{Emp\_manager}) = \text{Boolean}$

Assignment Relation:

$\text{dom}(\text{Assignment\_num}) = \text{Number}$

$\text{dom}(\text{Date}) = \text{Date}$

Vehicle Relation:

$\text{dom}(\text{Vin\_num}) = \text{Vin Number}$

$\text{dom}(\text{License\_num}) = \text{License Plate Number}$

$\text{dom}(\text{Year}) = \text{Year}$

$\text{dom}(\text{Make}) = \text{Make}$

$\text{dom}(\text{Model}) = \text{Model}$

$\text{dom}(\text{Vehicle\_note}) = \text{Note}$

Timeoff Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Start\_date}) = \text{Date}$

$\text{dom}(\text{End\_date}) = \text{Date}$

$\text{dom}(\text{Approved}) = \text{Boolean}$

Day Aval Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Week}$

TimeSheet Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Start\_date}) = \text{Date}$

$\text{dom}(\text{End\_date}) = \text{Date}$

Day Worked Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Start\_date}) = \text{Date}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Two Weeks}$

Is Assigned Relation:

$\text{dom}(\text{Job\_number}) = \text{Number}$

$\text{dom}(\text{Assignment\_num}) = \text{Number}$

Quoted Relation:

$\text{dom}(\text{Quote\_number}) = \text{Number}$

$\text{dom}(\text{Service\_name}) = \text{Name}$

$\text{dom}(\text{Service\_price}) = \text{Price}$

$\text{dom}(\text{Service\_approved}) = \text{Current State}$

Preformed Relation:

$\text{dom}(\text{Invoice\_number}) = \text{Number}$

$\text{dom}(\text{Service\_name}) = \text{Name}$

$\text{dom}(\text{Service\_price}) = \text{Price}$

Completes Relation:

$\text{dom}(\text{Job\_number}) = \text{Number}$

$\text{dom}(\text{Service\_name}) = \text{Name}$

$\text{dom}(\text{Service\_price}) = \text{Price}$

Uses Relation:

$\text{dom}(\text{Job\_number}) = \text{Number}$

$\text{dom}(\text{Equip\_num}) = \text{Number}$

$\text{dom}(\text{Equip\_amount}) = \text{Number}$

Takes Relation:

$\text{dom}(\text{Assignment\_num}) = \text{Number}$

$\text{dom}(\text{Vin\_num}) = \text{VIN Number}$

Works On Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Assignment\_num}) = \text{Number}$

Day Aval Start Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Week}$



$\text{dom}(\text{Aval\_start}) = \text{Time}$

Day Aval End Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Week}$

$\text{dom}(\text{Aval\_end}) = \text{Time}$

Day Worked Start Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Start\_date}) = \text{Date}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Two Weeks}$

$\text{dom}(\text{Worked\_start}) = \text{Time}$

Day Worked End Relation:

$\text{dom}(\text{Employee\_num}) = \text{Number}$

$\text{dom}(\text{Start\_date}) = \text{Date}$

$\text{dom}(\text{Day\_num}) = \text{Day Number Two Weeks}$

$\text{dom}(\text{Worked\_end}) = \text{Time}$