**Query Dictionary**

**BUSINESS QUESTION 1**: Which employees have checked out a 5/8 wrench and when did they check it in?

**SHOW**: FirstName, LastName, CheckOutDateTime, CheckInDateTime

**ORGANIZE**: CheckOutDateTime descending, showing the the most recent check out time first.

**BUSINESS REQUIREMENT**: BR(d) and BR(e)

**QUERY**:

SELECT FirstName, LastName, CheckOutDateTime, CheckInDateTime

FROM tblToolLogs tl

JOIN tblTools t

ON tl.ToolID = t.ToolID

JOIN tblEmployees e

ON e.RedID = tl.RedID

WHERE t.ToolName = 'Wrench' AND t.ToolDescription = '5/8'

ORDER BY CheckOutDateTime DESC;

**QUERY RESULTS**:

|  |  |  |  |
| --- | --- | --- | --- |
| **FirstName** | **LastName** | **CheckOutDateTime** | **CheckInDateTime** |
| Gabe | Longbrake | 2021-04-22 09:22:00.000 | NULL |
| Alexander | Nestler | 2021-04-11 11:53:00.000 | 2021-04-11 20:43:00.000 |
| Will | McGrath | 2021-03-25 19:57:00.000 | 2021-03-27 19:57:00.000 |
| Mu-Ting | Huang | 2021-03-21 17:09:00.000 | 2021-03-22 11:56:00.000 |
| Cullen | Muir | 2021-03-09 16:09:00.000 | 2021-03-11 08:26:00.000 |

**BUSINESS QUESTION 2**: Who is the supervisor of the employees that have checked out a 5/8 wrench?

**SHOW**: FirstName, LastName, Supervisor First Name, Supervisor Last Name

**ORGANIZE**: N/A

**BUSINESS REQUIREMENT**: BR(d) and BR(e)

**QUERY**:

SELECT e.FirstName, e.LastName,

(SELECT s.FirstName FROM tblEmployees s WHERE s.RedID = e.SupervisorID) [SupervisorFirstName],

(SELECT s.LastName FROM tblEmployees s WHERE s.RedID = e.SupervisorID) [SupervisorLastName]

FROM tblEmployees e

JOIN tblToolLogs tl

ON tl.RedID = e.RedID

JOIN tblTools t

ON t.ToolID = tl.ToolID

WHERE t.ToolName = 'Wrench' AND t.ToolDescription = '5/8';

**QUERY RESULTS**:

|  |  |  |  |
| --- | --- | --- | --- |
| **FirstName** | **LastName** | **SupervisorFirstName** | **SupervisorLastName** |
| Alexander | Nestler | Alexander | Nestler |
| Will | McGrath | Eric | Walters |
| Mu-Ting | Huang | Gabe | Longbrake |
| Gabe | Longbrake | Robert | Briggs |
| Cullen | Muir | Andrew | Forsythe |

**BUSINESS QUESTION 3**: What tools are ordered from Milwaukee?

**SHOW**: ToolName, ToolDescription

**ORGANIZE**: ToolName ascending and ToolDescription ascending

**BUSINESS REQUIREMENT**: BR(a)

**QUERY**:

SELECT ToolName, ToolDescription

FROM tblTools t

JOIN tblVendors v

ON v.VendorID = t.VendorID

WHERE v.VendorName = 'Milwaukee'

ORDER BY ToolName, ToolDescription;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **ToolName** | **ToolDescription** |
| Hammer | Black Handle Ball Pein |
| Hammer | Black Handle Ball Pein |
| Hammer | Black Handle Claw |
| Hammer | Orange Handle Claw |
| Hammer | Wood Handle Ball Pein |
| Wrench | Adjustable |

**BUSINESS QUESTION 4**: What vendor supplied order mumber E23645?

**SHOW**: VendorName

**ORGANIZE**: N/A

**BUSINESS REQUIREMENT**: BR(c)

**QUERY**:

SELECT VendorName

FROM tblVendors v

JOIN tblShippingManifest sm

ON sm.VendorID = v.VendorID

WHERE sm.OrderNumber = 'E23645';

**QUERY RESULTS**:

|  |
| --- |
| **VendorName** |
| Extron |

**BUSINESS QUESTION 5**: What items were received from order number E24756?

**SHOW**: ConsumableName

**ORGANIZE**: ConsumableName ascending

**BUSINESS REQUIREMENT**: BR(c)

**QUERY**:

SELECT mi.ConsumableID, ci.ConsumableName, mi.ManifestQuantity

FROM tblConsumableInventory ci

JOIN tblManifestItems mi

ON mi.ConsumableID = ci.ConsumableID

JOIN tblShippingManifest sm

ON sm.ManifestID = mi.ManifestID

WHERE OrderNumber = 'E24756'

ORDER BY ConsumableName;

**QUERY RESULTS**:

|  |  |  |
| --- | --- | --- |
| **ConsumableID** | **ConsumableName** | **ManifestQuantity** |
| 221 | Glue sticks | 300 |

**BUSINESS QUESTION 6**: Are there any vendors we haven’t ordered from in a year?

**SHOW**: VendorName, YearsSinceLastOrder

**ORGANIZE**: YearsSinceLastOrder descending

**BUSINESS REQUIREMENT**: BR(b)

**QUERY**:

SELECT VendorName, DATEDIFF(YEAR, MAX (ShippingDate), GETDATE()) AS YearsSinceLastOrder

FROM tblShippingManifest sm

JOIN tblVendors v

ON v.VendorID = sm.VendorID

GROUP BY VendorName, ShippingDate

HAVING DATEDIFF(YEAR, MAX (ShippingDate), GETDATE()) >= 1

ORDER BY YearsSinceLastOrder DESC;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **VendorName** | **YearsSinceLastOrder** |
| Extron | 1 |
| Milwaukee | 1 |
| Grainger | 1 |
| Adorama Camera | 1 |
| B&H Photo | 1 |
| Grainger | 1 |

**BUSINESS QUESTION 7**: Are there any vendors we haven’t ordered from yet?

**SHOW**: VendorName, NumberofOrders

**ORGANIZE**: N/A

**BUSINESS REQUIREMENT**: BR(b)

**QUERY**:

SELECT v.VendorName, COUNT(sm.ManifestID) AS NumberofOrders

FROM tblShippingManifest sm

FULL JOIN tblVendors v

ON v.VendorID = sm.VendorID

WHERE ManifestID IS NULL

GROUP BY VendorName;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **VendorName** | **NumberofOrders** |
| Fastenal | 0 |

**BUSINESS QUESTION 8**: Who did we order from the most? When determining this we can request a discount when bulk ordering.

**SHOW**: VendorName, NumberofOrders

**ORGANIZE**: NumberofOrders descending

**BUSINESS REQUIREMENT**: BR(b)

**QUERY**:

SELECT VendorName, COUNT(ManifestID) AS NumberofOrders

FROM tblShippingManifest sm

JOIN tblVendors v

ON v.VendorID = sm.VendorID

GROUP BY VendorName

ORDER BY NumberofOrders DESC;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **VendorName** | **NumberofOrders** |
| B&H Photo | 4 |
| Grainger | 4 |
| Extron | 3 |
| Milwaukee | 2 |
| Adorama Camera | 1 |
| Matterport | 1 |

**BUSINESS QUESTION 9**: What consumable items are less than 10 in quantity?

**SHOW**: ConsumableName, ConsumableQuantity

**ORGANIZE**: N/A

**BUSINESS REQUIREMENT**: BR(d) and BR(e)

**QUERY**:

SELECT ConsumableName, ConsumableQuantity

FROM tblConsumableInventory

WHERE ConsumableQuantity < 10;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **ConsumableName** | **ConsumableQuantity** |
| Paper Towels | 4 |
| Tissue | 5 |
| Velcro | 6 |
| Goo Gone | 4 |
| Spray Paint | 8 |

**BUSINESS QUESTION 10**: What consumables are ordered from Grainger?

**SHOW**: ConsumableName, ConsumableDescription

**ORGANIZE**: ConsumableName ascending

**BUSINESS REQUIREMENT**: BR(a)

**QUERY**:

SELECT ConsumableName, ConsumableDescription

FROM tblConsumableInventory ci

JOIN tblManifestItems mi

ON mi.ConsumableID = ci.ConsumableID

JOIN tblVendors v

ON v.VendorID = mi.VendorID

WHERE v.VendorName = 'Grainger'

ORDER BY ConsumableName;

**QUERY RESULTS**:

|  |  |
| --- | --- |
| **ConsumableName** | **ConsumableDescription** |
| Bleach | 500 ml bottles |
| Hand Sanitizer | Large bottles for classrooms |
| Paper Towels | Brawny, single rolls |

**BUSINESS QUESTION 11**: What are the most used tools

**SHOW**: NumOfCheckouts, ToolName, ToolDescriptionConsumableName, ConsumableDescription

**ORGANIZE**: NumOfCheckouts descending

**BUSINESS REQUIREMENT**: BR(d) and BR(e)

**QUERY**:

SELECT DISTINCT t.ToolID, t.ToolName, t.ToolDescription

FROM tblToolLogs tl

LEFT JOIN tblTools t

ON t.ToolID = tl.ToolID

WHERE t.ToolID IN (

SELECT ToolID

FROM (

SELECT TOP 25 PERCENT COUNT(tl2.CheckOutDateTime) AS NumOfCheckouts, tl2.ToolID

FROM tblToolLogs tl2

GROUP BY tl2.ToolID

) [TopTools]

);

**QUERY RESULTS**:

|  |  |  |
| --- | --- | --- |
| **ToolID** | **ToolName** | **ToolDescription** |
| 502 | Drill | Cordless Red Craftsman |
| 503 | Drill | Cordless Red Craftsman |
| 504 | Drill | Cordless Red Craftsman |
| 505 | Drill | Yellow DeWalt |
| 507 | Drill | Yellow DeWalt |

# **Update Tables**

This section of the SQL script was added for updating rows easily. Note, the variables intended to be replaced are flanked by ‘$’, such as $Variablename\_Type$. Variables not flanked by ‘$’ should be left as is.

## Part 1: Consumables

### Checkout a Consumable

INSERT INTO tblConsumableLogs VALUES

($RedID\_INT$, $ConsumableID\_INT$, GETDATE() , $NumTaken\_INT$, NULL)

UPDATE tblConsumableInventory

SET ConsumableQuantity = ConsumableQuantity - tblConsumableLogs.NumTaken

FROM tblConsumableInventory

JOIN tblConsumableLogs

ON tblConsumableLogs.ConsumableID = tblConsumableInventory.ConsumableID;

### Return a Consumable

-- To input a returned consumable, replace the template values below with the appropriate data

-- Automatically updates the inventory quantity for the consumable checked out

UPDATE tblConsumableLogs

SET NumReturned = $NumReturned\_INT$

WHERE RedID = $RedID\_INT$ AND ConsumableID = $Consumable\_ID$

UPDATE tblConsumableInventory

SET ConsumableQuantity = ConsumableQuantity + tblConsumableLogs.NumReturned

FROM tblConsumableInventory

JOIN tblConsumableLogs

ON tblConsumableLogs.ConsumableID = tblConsumableInventory.ConsumableID;

### Add a New Consumable

-- To insert a new consumable (NOT more of an existing consumable), replace the template values below with the appropriate data

INSERT INTO tblConsumableInventory VALUES

($ConsumableID\_INT$, $ConsumableName\_VARCHAR$, $ConsumableDescription\_VARCHAR$, $ConsumableQuantity\_INT$)

## Part 2: Tools

### Check Out a Tool

-- To input a new tool checkout log, replace the template values below with the appropriate data

-- Leave the GETDATE() and NULL values as they are

INSERT INTO tblToolLogs VALUES

($RedID\_INT$, $ToolID\_INT$, GETDATE() , NULL, $ServiceTicketID\_INT$)

### Return a Tool

-- To return a tool, replace the template values below with the appropriate data

UPDATE tblToolLogs

SET CheckinDateTime = GETDATE()

WHERE RedID = $RedID\_INT$

AND ToolID = $ToolID\_INT$

AND ServiceTicketID = $ServiceTicketID\_INT$

### Add a New Tool

-- Add a new tool, this includes additional tools of existing type

-- Duplicate tools should have different Tool ID’s

INSERT INTO tblTools VALUES

($ToolID\_INT$, $ToolName\_VARCHAR$, $ToolDescr\_VARCHAR$, $VendorID\_INT$)

## Part 3: Employees

### New Employee

-- To input a new employee, replace the template values with the appropriate information for the employee

-- Employment Status is either "Employed" or "Unemployed"

INSERT INTO tblEmployees VALUES

($RedID\_INT$, $FirstName\_VARCHAR$, $LastName\_VARCHAR$, $SupervisorID\_INT$, $CallSign\_INT$, $EmploymentStatus\_VARCHAR$, $Team\_VARCHAR$)

### Change Employment Status

-- Employment Status is either "Employed" or "Unemployed"

UPDATE tblEmployees

SET EmploymentStatus = $Status$

WHERE RedID = $ID\_NUM$

## Part 4: Manifest

### New Shipping Manifest

-- To input a new shipping manifest, replace the template values with the appropriate information

-- Manifest ID in both lines must match.

INSERT INTO tblShippingManifest VALUES

($ManifestID\_INT$, $OrderNumber\_VARCHAR$, $ShippingDate\_DATE$, $VendorID\_INT$)

INSERT INTO tblManifestItems VALUES

($ConsumableID\_INT$, $VendorID\_INT$, $ItemDescription\_VARCHAR$, $ManifestQuantity\_INT$, $ManifestID\_INT$)

## Part 5: Vendors

### New Vendor

-- To add a new vendor, replace the template values with the appropriate information for the vendor

INSERT INTO tblVendors VALUES

($VendorID\_INT$, $VendorName\_VARCHAR$, $PhoneNumber\_VARCHAR$, $Address\_VARCHAR$)