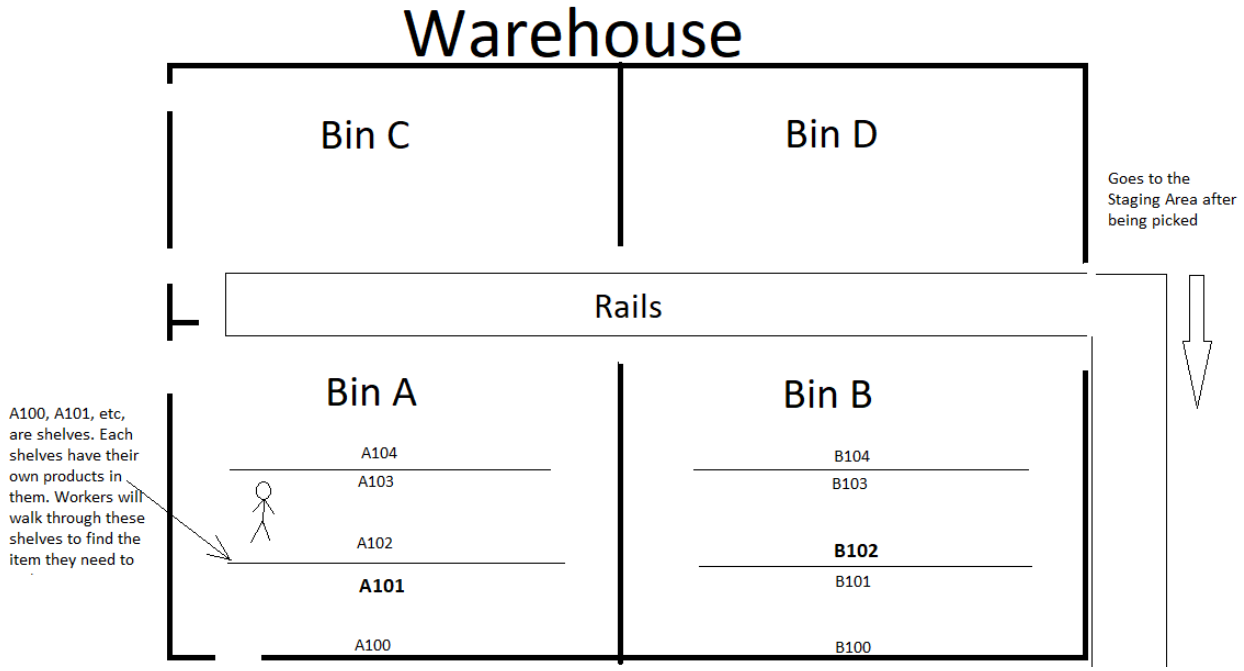
Overview: The employees will be in charge of moving the product to its proper location. First, they will pick it from its shelf location and put it on a tote box. Each tote box will have their own location id, zone and bin. These totes can have as many items in them as long as they fit physically. They will be pushed down the rails where the next workers will scan these items into their staging shelves. Once all items for an order are collected in the staging area, the workers will be alerted to scan these items into the Order Totes, then giving them to the shippers. From there, the shippers will check for all the parts, before finally completing the order for the customer.

Step 1. Checking for pick items. Workers will be alerted whenever a new customer order has been approved. As shown in the PICKS table

	ORD...	PRODUCT_ID	EMPLOYEE_ID	PICK_STATUS	TIME_PICKED	BIN_LOCATION	ZONE_LOCATION	QUANTITY
1	1	1	(null)	N	(null)	A	A101	2
2	1	5	(null)	N	(null)	B	B102	2

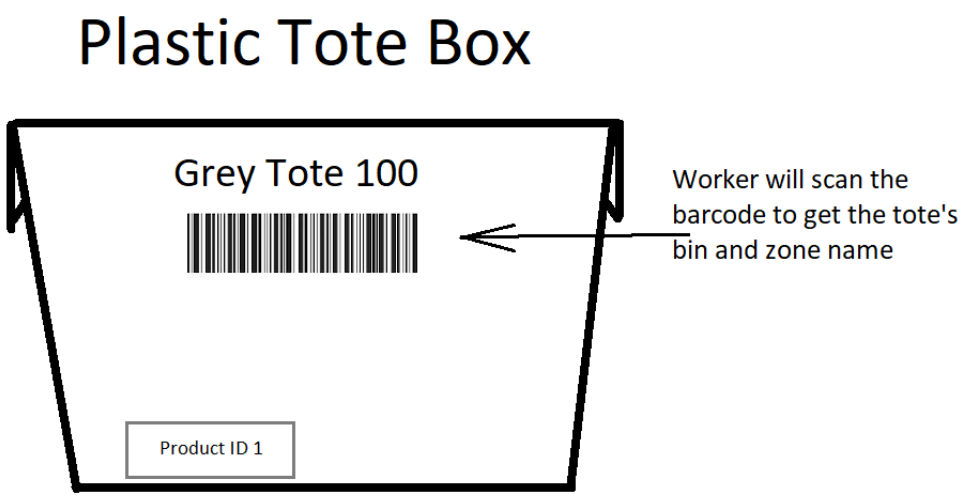
There are 4 items located in two different locations. One in A101, and the other in B102. Warehouse demonstration



Step 2. Once a worker has picked an item like Product ID 1 in Zone Location A101, they will scan it and PROCESS_PICKS will execute.

```
EXECUTE PACKAGE_PICKS.PROCESS_PICKS(1, 1, 'A', 'A101', 'PICK', 'GREY_TOTE_100');
```

In this procedure, they will input what new location they will be scanned into. In this case, the employee will put that they have 1 unit of product id 1 from A101 and place it inside Grey Tote 100



From here, the Pick Table and Order List Table will be updated

PICK Table

	ORDER_ID	PRODUCT_ID	EMPLOYEE_ID	PICK_STATUS	TIME_PICKED	BIN_LOCATION	ZONE_LOCATION	QUANTITY
1	1	1	1	Y	20-01-2025 02:46:30 PM	A	A101	1
2	1	1	(null)	N	(null)	A	A101	1
3	1	5	(null)	N	(null)	B	B102	2

It shows that Employee ID 1 has picked an item and gives an exact time of when it happened.

ORDER_LIST Table

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	A	A101	1
2	1	1	PICK	GREY_TOTE_100	1
3	1	5	B	B102	2

Here it demonstrates that 1 of the items has been moved to GREY_TOTE_100.

From here, the worker will continue to pick the items and get the final picture.

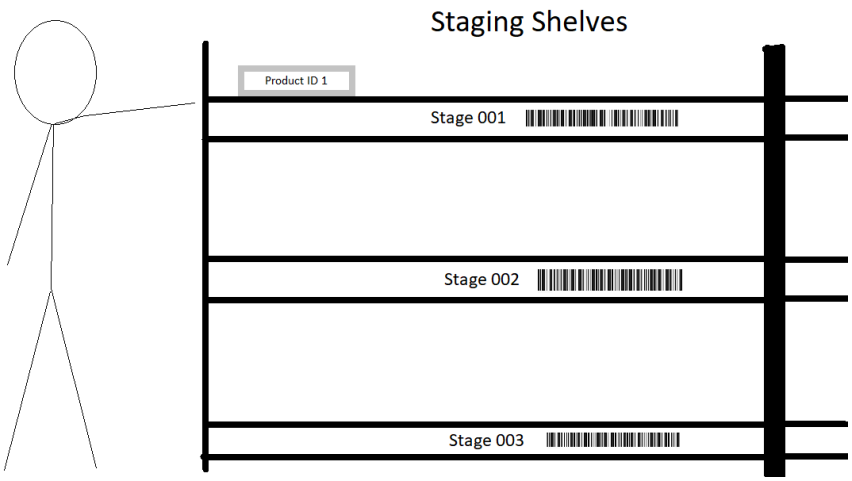
PICKS Table

	ORDER_ID	PRODUCT_ID	EMPLOYEE_ID	PICK_STATUS	TIME_PICKED	BIN_LOCATION	ZONE_LOCATION	QUANTITY
1	1	1	1	Y	20-01-2025 02:46:30 PM	A	A101	1
2	1	1	1	Y	20-01-2025 02:57:29 PM	A	A101	1
3	1	5	2	Y	20-01-2025 02:58:17 PM	B	B102	1
4	1	5	2	Y	20-01-2025 02:58:20 PM	B	B102	1

ORDER_LIST

	ORD...	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	PICK	GREY_TOTE_100	2
2	1	5	PICK	GREY_TOTE_101	2

Step 3. Once the items are in their totes, they will go through the electric rails until they reach the staging area. Similar to the last step, they will be scanned from their tote to the staging shelves.



MOVE_TOTE_TO_STAGE will be executed

```
-- Product ID, Employee ID, Tote Bin, Tote Zone, Stage Bin, Stage Zone
EXECUTE PACKAGE_ORDER_LIST.MOVE_TOTE_TO_STAGE(1, 4,
        'PICK', 'GREY_TOTE_100', 'STAGE', 'STAGE_001');
```

ORDER_LIST Table will update because the product's location has been changed

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	PICK	GREY_TOTE_100	1
2	1	1	STAGE	STAGE_001	1
3	1	5	PICK	GREY_TOTE_101	2

PICK Table will remain the same because it only tracks the first time it was picked from the warehouse

From here the worker will keep on staging the items from its tote.
Final **ORDER_LIST Table.** Note: They can be added in whatever stage.

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	STAGE	STAGE_001	1
2	1	1	STAGE	STAGE_002	1
3	1	5	STAGE	STAGE_001	2

Step 4. Once all of the items are staged for an order, then the workers will move them to the final box. I created a view called ORDERS_READY that demonstrates this.

VIEW ORDERS_READY

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	STAGE	STAGE_001	1
2	1	1	STAGE	STAGE_002	1
3	1	5	STAGE	STAGE_002	1
4	1	5	STAGE	STAGE_002	1

Orders will only appear in this table if all of the items for the order are staged. Click on the link attached to ORDERS_READY to see how.

The worker will then move these items from their shelves to the last box. Box is similar to the plastic tote shown on Step 2. Procedure MOVE_STAGE_TO_BOX will be executed

```
-- Order ID, Product ID, Employee ID, TOTE_BIN , TOTE_ZONE , STAGE_BIN , STAGE_ZONE
EXECUTE PACKAGE_ORDERS.MOVE_STAGE_TO_BOX(1, 1, 4, 'STAGE', 'STAGE_001',
        'COMP', 'ORDER_TOTE_00001');
```

ORDER LIST will be updated once again.

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	COMP	ORDER_TOTE_00001	1
2	1	1	STAGE	STAGE_002	1
3	1	5	STAGE	STAGE_002	2

The worker will repeat this until all parts are sent to a COMP bin.

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	COMP	ORDER_TOTE_00001	2
2	1	5	COMP	ORDER_TOTE_00001	2

Step 5. From here, the shipper will take over and finalize the order once they have gathered all their items for the order. Once they are sure they have been gathered, then FINALIZE_ORDER will be executed

```
-- Employee ID, Order ID
EXECUTE PACKAGE_ORDERS.FINALIZE_ORDER(5, 1);
```

ORDER_LIST will be updated for the last time. It will set the BIN and ZONE as Final to indicate that the order has been completed

	ORDER_ID	PRODUCT_ID	BIN	ZONE	QUANTITY
1	1	1	FINAL	FINAL 0x0000001	2
2	1	5	FINAL	FINAL 0x0000001	2

The ORDERS Table will be updated to register which employee completed this order and the time it was shipped

	ORDER_ID	ORDER_DATE	SHIPDATE	CUSTOMER_ID	EMPLOYEE_ID
1	1	17-01-2025 11:23:27 PM	20-01-2025 07:03:31 PM	1	5

Warehouse Inventory Table before being Finalize

	PRODUCT_ID	UNITS	BIN	ZONE
1	1	35	A	A101
2	1	44	A	A102
3	1	45	A	A102
4	1	45	A	A103
5	1	45	A	A104
6	1	27	B	B101
7	1	20	B	B102
8	5	4	B	B102

After Being Finalized. It will remove the items from the warehouse

	PRODUCT_ID	UNITS	BIN	ZONE
1	1	33	A	A101
2	1	44	A	A102
3	1	45	A	A102
4	1	45	A	A103
5	1	45	A	A104
6	1	27	B	B101
7	1	18	B	B102
8	5	2	B	B102

Finally, the ORDERS_READY view will now appear as empty as order id 1 has been completed.