Lesson 4

1. Difference between "Merge" and "Append" in Power Query

Merge → ikkita jadvalni **yonma-yon** birlashtiradi (SQL'dagi JOIN kabi). Kalit ustun (masalan CustID) bo'yicha ishlaydi.

Append → ikkita jadvalni **ustma-ust** qo'shadi (SQL'dagi UNION kabi).

✅ Misol:

Merge = Orders + Customers (CustID bo'yicha).

Append = Orders_Jan + Orders_Feb (ustunlar bir xil bo'lsa).

2. Split "Full Name" into "First Name" and "Last Name"

Select column → Home → Split Column → By Delimiter.

Delimiter sifatida "Space" tanlanadi.

Natija: "Full Name" → "First Name" va "Last Name".

3. What is "Pivot Columns" used for?

☞ Pivot Columns — satrlarni ustunlarga aylantirish uchun ishlatiladi. Misol:

Avvalgi jadval: CustomerID | Product | Quantity

Pivot → CustomerID | Laptop | Mouse | Keyboard

✅ Natija: ma'lumotni keng formatga o'tkazadi.

4. Undo a step in Power Query

☞ O'ng tomondagi **Applied Steps** panelida so'nggi qadamni:

Delete (x) tugmasi bilan o'chirish mumkin.

Yoki **Ctrl+Z** ishlaydi (ba'zida).

5. Reference vs. Duplicate in queries

Duplicate → butunlay **nusxa** yaratadi (hamma qadamlar bilan). Mustaqil query.

Reference → asosiy query'dan **havola** qiladi. Agar asosiy query o'zgarsa, Reference ham yangilanadi.

✅ Reference yengilroq va tezroq ishlaydi.

6. Merge Orders.csv and Customers.xlsx on CustID (inner join)

Home → Merge Queries

Orders.csv + Customers.xlsx tanlanadi.

Kalit: CustID

Join kind: Inner (faqat mos yozuvlar).

7. Pivot the Product column to show total Quantity per product

Product ustunini tanlang.

Transform → Pivot Column.

Values: Quantity → Aggregation: Sum.

✅ Endi har bir product alohida ustun bo'ladi.

8. Append two tables (Orders_Jan.csv + Orders_Feb.csv)

Home → Append Queries.

Ikki jadval tanlanadi.

Natija: bitta katta jadval (ustunlar bir xil bo'lishi kerak).

9. Fill Down in Email column

Email ustunini tanlang.

Transform → Fill → Down.

Null joylar yuqoridagi qiymat bilan to'ldiriladi.

10. Extract domain from Email column

Email ustunini tanlang.

Transform → Extract → Text After Delimiter → "@".

Natija: faqat domen (example.com).

11. M-code to merge queries dynamically (JoinType = "Inner")

= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "CustomerData", JoinType.Inner)

☞ Agar JoinType ni parametr sifatida yaratsangiz (JoinTypeParam), unda:

= Table.NestedJoin(Orders, {"CustID"}, Customers, {"CustID"}, "CustomerData", JoinTypeParam)

12. Unpivot Jan_Sales, Feb_Sales into Month/Sales format

Sarlavhalar: CustomerID | Jan_Sales | Feb_Sales

Transform → Unpivot Columns (Jan_Sales, Feb_Sales).

Natija: CustomerID | Attribute (Month) | Value (Sales).

13. Handle errors (division by zero) with try...otherwise

= Table.AddColumn(Source, "SafeDivision", each try [Sales] / [Quantity] otherwise null)

✅ Agar Quantity = 0 bo'lsa, xato chiqmaydi, Null qaytadi.

14. Function to clean phone numbers (remove dashes)

1. **Home → Advanced Editor → New Blank Query**.
2. M-code:

```
(phone as text) as text =>
    Text.Replace(phone, "-", "")
```

3. Endi bu funksiya CleanPhone("123-456-789") chaqirilganda 123456789 qaytaradi.

15. Optimize a query with 10+ steps

☞ Tezlikni oshirish uchun:

Keraksiz ustunlarni erta olib tashlang (Remove Columns).

Filterlarni iloji boricha avval qo'llang (kamroq satr qolsin).

Keraksiz "Change Type" qadamlarini birlashtiring.

Bir xil ishlovlarni takrorlamang (masalan, ikkita merge → bitta merge).

"Enable load" faqat kerakli query'lar uchun yoqilsin.

✅ Bu refresh vaqtini sezilarli kamaytiradi.

Orders

OrderID	CustID	Product	Quantity
1001	101	Laptop	1
1002	102	Mouse	3
1003	101	Keyboard	2
1004	103	Monitor	1

Customers

CustID	Name	Email
101	Alice	alice@example.com
102	Bob	bob@example.com
103	Charlie	charlie@example.com