Exercise 1
Create the DP table (manually) for the relations \( A, B, C \) with cardinalities \(|A| = 10, |B| = 20, |C| = 100\) and selectivities \( f_{AB} = 0.5, f_{BC} = 0.1 \) (cost function \( C_{out} \)). Mark the final table entries. Enumerate subsets in the integer order. Consider cross products.

Exercise 2
Using the program from the last exercise as basis, implement Greedy Operator Ordering. Print the partial steps together with their costs (e.g., \( P = R_1 \bowtie R_2 200, Q = P \bowtie R_3 400 \)), as well as the final join tree.

Exercise 3
Load the TPC H data set. (You can use our snapshot of the data set, the loadtpch-* script loads the data). Then, execute the following SQL query using the program implemented above:

```
select *
from lineitem l, orders o, customers c
where l.l_orderkey=o.o_orderkey
  and o.o_custkey=c.c_custkey
  and c.c_name="Customer#000014993".
```