# Assignment 3b - Schema

Query 1: SQLXML

```
/* SQLXML_query1 with xml datatype (address)
    used tables: Customer, Order, Robot
*/

SELECT xmlroot(
xmlelement(name customer_data,
            xmlagg(
    xmlelement(name customer_details, xmlattributes(cu.customer_id as customer_id),
        xmlforest(cu.lname, cu.fname, cu.bday, cu.address),
    xmlelement(name order_data, xmlelement(name orders, xmlattributes(o.order_id as order_id),
        xmlforest(o.item_id, o.robot_id))),
    xmlelement(name robots, xmlattributes(r.robot_id as robot_id),
        xmlforest(r.rname, r.rtype, r.rfunction)))))
                  ,version 1.0, standalone yes)

FROM public."Customer" cu
    FULL JOIN public."Order" o
    ON cu.customer_id=o.customer_id
    FULL JOIN public."Robot" r
    ON o.robot_id=r.robot_id

WHERE cu.customer_id < 31
```

Result 1: 19 first lines of the result as a table

| | customer_id integer | lname character varying (50) | fname character varying (50) | bday date | address xml | order_id integer | item_id integer | robot_id integer | rname character va | rtype character varying | rfunction character varying |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7 | HRLrlmWE | lPHexTCc | 1989-01... | <Address> | 90 | 83 | 440 | Barney | burger_chef | produce burger |
| 2 | 1 | vLpjLple | FJncwPNF | 1995-10... | <Address> | 105 | 57 | 633 | Bob | fries_expert | produce fries |
| 3 | 8 | IQCWVtpD | lhmnackx | 1982-09... | <Address> | 154 | 227 | 19 | Joe | interaction_manager | customer communicati... |
| 4 | 13 | BAjWoMJe | kqVLRnTk | 1996-08... | <Address> | 198 | 198 | 116 | Joe | interaction_manager | customer communicati... |
| 5 | 30 | gcVYxZjo | cHBBpaYX | 1985-03... | <Address> | 283 | 239 | 524 | Alice | drink_mixer | produce baverage |
| 6 | 30 | gcVYxZjo | cHBBpaYX | 1985-03... | <Address> | 286 | 111 | 773 | Bob | fries_expert | produce fries |
| 7 | 6 | pMlXodMg | NyomgjNJ | 1990-08... | <Address> | 343 | 302 | 634 | Bob | fries_expert | produce fries |
| 8 | 28 | CWqOcOfD | lKqoquNz | 1998-08... | <Address> | 422 | 584 | 79 | Joe | interaction_manager | customer communicati... |
| 9 | 17 | DtiOdauv | nXEFDCmB | 2000-04... | <Address> | 445 | 93 | 563 | Alice | drink_mixer | produce baverage |
| 10 | 29 | EJtGPvBB | ZcuRdZmo | 1998-07... | <Address> | 537 | 720 | 525 | Alice | drink_mixer | produce baverage |
| 11 | 28 | CWqOcOfD | lKqoquNz | 1998-08... | <Address> | 554 | 170 | 183 | Joe | interaction_manager | customer communicati... |
| 12 | 17 | DtiOdauv | nXEFDCmB | 2000-04... | <Address> | 565 | 451 | 56 | Joe | interaction_manager | customer communicati... |
| 13 | 23 | xDnnMqQj | JNSzeqiR | 1994-10... | <Address> | 584 | 198 | 372 | Sandra | stock_manager | ordering |
| 14 | 19 | jyZaOmCC | DwCddepq | 1992-09... | <Address> | 597 | 749 | 726 | Bob | fries_expert | produce fries |
| 15 | 8 | IQCWVtpD | lhmnackx | 1982-09... | <Address> | 613 | 629 | 247 | Sandra | stock_manager | ordering |
| 16 | 2 | gVQjBtBe | wdRajoyu | 1983-01... | <Address> | 616 | 499 | 299 | Sandra | stock_manager | ordering |
| 17 | 6 | pMlXodMg | NyomgjNJ | 1990-08... | <Address> | 622 | 291 | 366 | Sandra | stock_manager | ordering |
| 18 | 9 | SbZZrcno | XPHHJPaY | 1993-08... | <Address> | 625 | 346 | 760 | Bob | fries_expert | produce fries |
| 19 | 21 | vlKAYElG | MBJLBenG | 1981-10... | <Address> | 630 | 438 | 408 | Barney | burger_chef | produce burger |

Query 2: SQLXML

```
/* SQLXML_query2 with xml datatype (orderdetail)
    used tables: Order, OrderItem, Ingredient
*/

SELECT xmlroot(
xmlelement(name order_data_all,
            xmlagg(
    xmlelement(name order_meta, xmlattributes(o.order_id as order_id), xmlforest(o.order_date, o.orderdetail),
    xmlelement(name orderitems, xmlattributes(oi.item_id as item_id), xmlforest(oi.itname, oi.itsize, oi.itcost)),
    xmlelement(name ingredients, xmlattributes(i.ingredient_id as ingredient_id), xmlforest(i.inname, i.inalergic, i.intype)))))
                ,version 1.0, standalone yes)

FROM public."Order" o
    FULL JOIN public."OrderItem" oi
    ON o.item_id=oi.item_id
    FULL JOIN public."Ingredient" i
    ON oi.ingredient_id=i.ingredient_id

WHERE o.order_id > 100 AND o.order_id < 131
```

Result 2: 19 first lines of the result as a table

| | order_date date | order_id integer | orderdetail xml | itname character varying | itsize character (1) | itcost double precision | inname character varying | inalergic character varying | intype character varying |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2020-09-05 | 119 | <Orderdetails> | + ranch | u | 0.5 | Cucumber | [null] | Burger |
| 2 | 2021-02-13 | 124 | <Orderdetails> | Sprite | m | 3 | Cola syrup | [null] | Drink |
| 3 | 2020-01-29 | 104 | <Orderdetails> | Sprite | l | 4 | Mustard | M | Burger |
| 4 | 2020-03-24 | 108 | <Orderdetails> | Burgerbun | u | 0.5 | Mushroom | [null] | Burger |
| 5 | 2020-11-28 | 129 | <Orderdetails> | + cucumber | u | 0.5 | Cola syrup | [null] | Drink |
| 6 | 2020-09-11 | 105 | <Orderdetails> | + pickle | u | 0.5 | Mayo | C, G | Burger |
| 7 | 2020-06-04 | 115 | <Orderdetails> | + ranch | u | 0.5 | Tomato | [null] | Burger |
| 8 | 2020-04-23 | 120 | <Orderdetails> | Sprite | s | 2 | Ground meat | [null] | Burger |
| 9 | 2020-08-27 | 107 | <Orderdetails> | + tomato | u | 0.5 | Tomato | [null] | Burger |
| 10 | 2020-01-11 | 121 | <Orderdetails> | + pickle | u | 0.5 | Lettuce | [null] | Burger |
| 11 | 2020-05-24 | 127 | <Orderdetails> | Burgerbun | u | 0.5 | Bacon | [null] | Burger |
| 12 | 2020-07-27 | 114 | <Orderdetails> | Cola | s | 2 | Sprite syrup | [null] | Drink |
| 13 | 2020-11-21 | 106 | <Orderdetails> | Fanta | s | 2 | Sprite syrup | [null] | Drink |
| 14 | 2020-08-12 | 109 | <Orderdetails> | + lettuce | u | 0.5 | Ketchup | [null] | Burger |
| 15 | 2021-01-24 | 112 | <Orderdetails> | + lettuce | u | 0.5 | Potato | [null] | Side dish |
| 16 | 2020-04-03 | 126 | <Orderdetails> | + mushroom | u | 0.5 | Cheese | G | Burger |
| 17 | 2020-07-06 | 116 | <Orderdetails> | Wedges | s | 2 | Potato | [null] | Side dish |
| 18 | 2020-06-07 | 123 | <Orderdetails> | + onion | u | 0.5 | Water | [null] | Drink |
| 19 | 2021-03-23 | 110 | <Orderdetails> | + lettuce | u | 0.5 | Cheese | G | Burger |

Query 3: SQL

```sql
/* SQLXML_query3 without xml datatype
    used tables: OrderItem, Ingredient, Stock
*/

SELECT xmlroot(
xmlelement(name orderitem_burgerbun,
            xmlagg(
xmlelement(name orderitem_deepdive,
    xmlelement(name orderitem_meta, xmlattributes(oi.item_id as item_id), xmlforest(oi.itname, oi.itsize, oi.itcost)),
xmlelement(name ingredient_info,
    xmlelement(name ingredient, xmlattributes(i.ingredient_id as ingredient_id),
        xmlforest(i.inname, i.inalergic, i.intype)),
    xmlelement(name stock_status, xmlelement(name stock_info, xmlattributes(s.stock_id as stock_id),
        xmlforest(s.scurrent, s.snew, s.smaxcapa))))))
                ), version 1.0, standalone yes)

FROM public."OrderItem" oi
    FULL JOIN public."Ingredient" i
    ON oi.ingredient_id=i.ingredient_id
    FULL JOIN public."Stock" s
    ON s.stock_id=i.stock_id

WHERE oi.itname ='Burgerbun'
```

Result 3: 19 first lines of the result as a table

| | item_id integer | itname character varying | itsize character (1 | itcost double prec | inname character varying | inalergic character varyi | intype character varyi | scurrent double precis | snew double precis | smaxcapa double precisic |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | + bacon | u | 1 | Pickle | [null] | Burger | 44 | 5 | 40 |
| 2 | 13 | + bacon | u | 1 | Potato | [null] | Side dish | 47 | 34 | 10 |
| 3 | 70 | + bacon | u | 1 | Cola syrup | [null] | Drink | 30 | 48 | 10 |
| 4 | 79 | + bacon | u | 1 | Onion | [null] | Burger | 5 | 6 | 5 |
| 5 | 119 | + bacon | u | 1 | Bacon | [null] | Burger | 15 | 9 | 50 |
| 6 | 14 | + ketchup | u | 0.5 | Potato | [null] | Side dish | 1 | 40 | 50 |
| 7 | 30 | + ketchup | u | 0.5 | Sprite syrup | [null] | Drink | 5 | 0 | 40 |
| 8 | 81 | + ketchup | u | 0.5 | Mayo | C, G | Burger | 14 | 13 | 20 |
| 9 | 112 | + ketchup | u | 0.5 | Tomato | [null] | Burger | 37 | 14 | 40 |
| 10 | 4 | + ranch | u | 0.5 | Onion | [null] | Burger | 30 | 8 | 5 |
| 11 | 27 | + ranch | u | 0.5 | Cucumber | [null] | Burger | 43 | 40 | 10 |
| 12 | 35 | + ranch | u | 0.5 | Tomato | [null] | Burger | 5 | 1 | 5 |
| 13 | 59 | + ranch | u | 0.5 | Water | [null] | Drink | 1 | 15 | 30 |
| 14 | 66 | + ranch | u | 0.5 | Sprite syrup | [null] | Drink | 20 | 42 | 2 |
| 15 | 77 | + ranch | u | 0.5 | Sprite syrup | [null] | Drink | 35 | 24 | 2 |
| 16 | 39 | Fries | m | 3 | Water | [null] | Drink | 40 | 43 | 20 |
| 17 | 45 | Fries | m | 3 | Lettuce | [null] | Burger | 35 | 29 | 40 |
| 18 | 80 | Fries | m | 3 | Sprite syrup | [null] | Drink | 6 | 46 | 40 |
| 19 | 65 | Water | m | 2 | Ranch | C, G | Burger | 20 | 26 | 5 |

Query 4: SQL

```sql
/* SQLXML_query4 without xml datatype
    used tables: Robot, Delivery, Stock
*/

SELECT xmlroot(
        xmlelement(name robot_sandra,
            xmlagg( xmlelement(name robot_taskboard,
       xmlelement(name robot_info, xmlattributes(r.robot_id as robot_id),
            xmlforest(r.rname, r.rtype, r.rfunction)),
       xmlelement(name delivery_info,
       xmlelement(name delivery, xmlattributes(d.delivery_id as delivery_id),
            xmlforest(d.ddate, d.vendor, d.damount)),
       xmlelement(name stock_replenishment,
       xmlelement(name stock_info, xmlattributes(s.stock_id as stock_id),
            xmlforest(s.ingredient_id, s.scurrent, s.snew, s.smaxcapa))))))
                ), version 1.0, standalone yes)

FROM public."Robot" r
    FULL JOIN public."Delivery" d
    ON r.delivery_id=d.delivery_id
    FULL JOIN public."Stock" s
    ON s.stock_id=d.stock_id

WHERE r.rname='Sandra' AND (d.vendor='Cocacola Comp.' OR d.vendor='FreshMarket')
```

Result 4: 19 first lines of the result as a table

| | robot_id integer | rname character vary | rtype character varying | rfunction character varyi | delivery_id integer | ddate date | vendor character varying | damount integer | ingredient_id integer | scurrent double preci | snew double pr | smaxcapa double precisio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 342 | Sandra | stock_manager | ordering | 670 | 2020-06-11 | Cocacola Comp. | 5 | 378 | 43 | 43 | 30 |
| 2 | 326 | Sandra | stock_manager | ordering | 470 | 2021-03-19 | FreshMarket | 3 | 43 | 40 | 43 | 10 |
| 3 | 373 | Sandra | stock_manager | ordering | 280 | 2020-05-26 | Cocacola Comp. | 14 | 221 | 29 | 7 | 50 |
| 4 | 253 | Sandra | stock_manager | ordering | 742 | 2020-01-25 | FreshMarket | 13 | 245 | 14 | 30 | 30 |
| 5 | 220 | Sandra | stock_manager | ordering | 645 | 2020-12-18 | FreshMarket | 2 | 127 | 47 | 3 | 5 |
| 6 | 361 | Sandra | stock_manager | ordering | 144 | 2020-11-11 | Cocacola Comp. | 4 | 243 | 39 | 7 | 40 |
| 7 | 384 | Sandra | stock_manager | ordering | 509 | 2020-04-07 | Cocacola Comp. | 2 | 526 | 22 | 9 | 2 |
| 8 | 266 | Sandra | stock_manager | ordering | 509 | 2020-04-07 | Cocacola Comp. | 2 | 526 | 22 | 9 | 2 |
| 9 | 350 | Sandra | stock_manager | ordering | 43 | 2020-08-19 | Cocacola Comp. | 8 | 757 | 21 | 44 | 50 |
| 10 | 311 | Sandra | stock_manager | ordering | 192 | 2021-03-28 | Cocacola Comp. | 8 | 278 | 28 | 45 | 30 |
| 11 | 355 | Sandra | stock_manager | ordering | 753 | 2021-01-09 | FreshMarket | 12 | 382 | 42 | 32 | 5 |
| 12 | 352 | Sandra | stock_manager | ordering | 224 | 2020-11-14 | Cocacola Comp. | 6 | 639 | 16 | 38 | 5 |
| 13 | 330 | Sandra | stock_manager | ordering | 261 | 2021-03-25 | Cocacola Comp. | 18 | 178 | 43 | 32 | 30 |
| 14 | 308 | Sandra | stock_manager | ordering | 261 | 2021-03-25 | Cocacola Comp. | 18 | 178 | 43 | 32 | 30 |
| 15 | 389 | Sandra | stock_manager | ordering | 490 | 2020-06-06 | FreshMarket | 8 | 345 | 34 | 18 | 2 |
| 16 | 369 | Sandra | stock_manager | ordering | 83 | 2021-03-16 | FreshMarket | 17 | 363 | 20 | 41 | 20 |
| 17 | 343 | Sandra | stock_manager | ordering | 610 | 2020-10-08 | Cocacola Comp. | 1 | 479 | 19 | 47 | 20 |
| 18 | 268 | Sandra | stock_manager | ordering | 399 | 2020-12-21 | Cocacola Comp. | 6 | 613 | 29 | 35 | 40 |
| 19 | 396 | Sandra | stock_manager | ordering | 26 | 2020-07-17 | Cocacola Comp. | 9 | 485 | 3 | 6 | 20 |