

Assignment 3a - Extraction

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, xmlforest(cu.customer_id, cu.lname, cu.fname, cu.bday, cu.address),
        xmlelement(name order_data,
          xmlelement(name orders,
            xmlforest(o.order_id, o.item_id, o.robot_id))),
          xmlelement(name robots,
            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	mname character varying (50)	rtype character varying (50)	rfunction character varying (50)
1	7	HRLrlmWE	IPHexTCc	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	pMIXodMg	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	pMIXodMg	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	viKAYEIG	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, xmlforest(o.order_date, o.order_id, o.orderdetail),
        xmlelement(name orderitems, xmlforest(oi.itname, oi.itsize, oi.itcost)),
        xmlelement(name ingredients, xmlforest(i.inname, i.inallergic, 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

```
/* 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, xmlforest(oi.item_id, oi.itname, oi.itsize, oi.itcost)),
        xmlelement(name ingredient_info,
          xmlelement(name ingredient,
            xmlforest(i.inname, i.inallergic, i.intype)),
          xmlelement(name stock_status, xmlelement(name stock_info,
            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 precis
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

```
/* 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, xmlforest(r.robot_id, r.rname, r.rtype, r.rfunction)),
      xmlelement(name delivery_info,
        xmlelement(name delivery, xmlforest(d.delivery_id, d.ddate, d.vendor, d.damount)),
        xmlelement(name stock_replenishment,
          xmlelement(name stock_info, 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	name character varying	rtype character varying	rfunction character varying	delivery_id integer	ddate date	vendor character varying	damount integer	ingredient_id integer	scurrent double precision	snew double precision	smaxcapa double precision
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