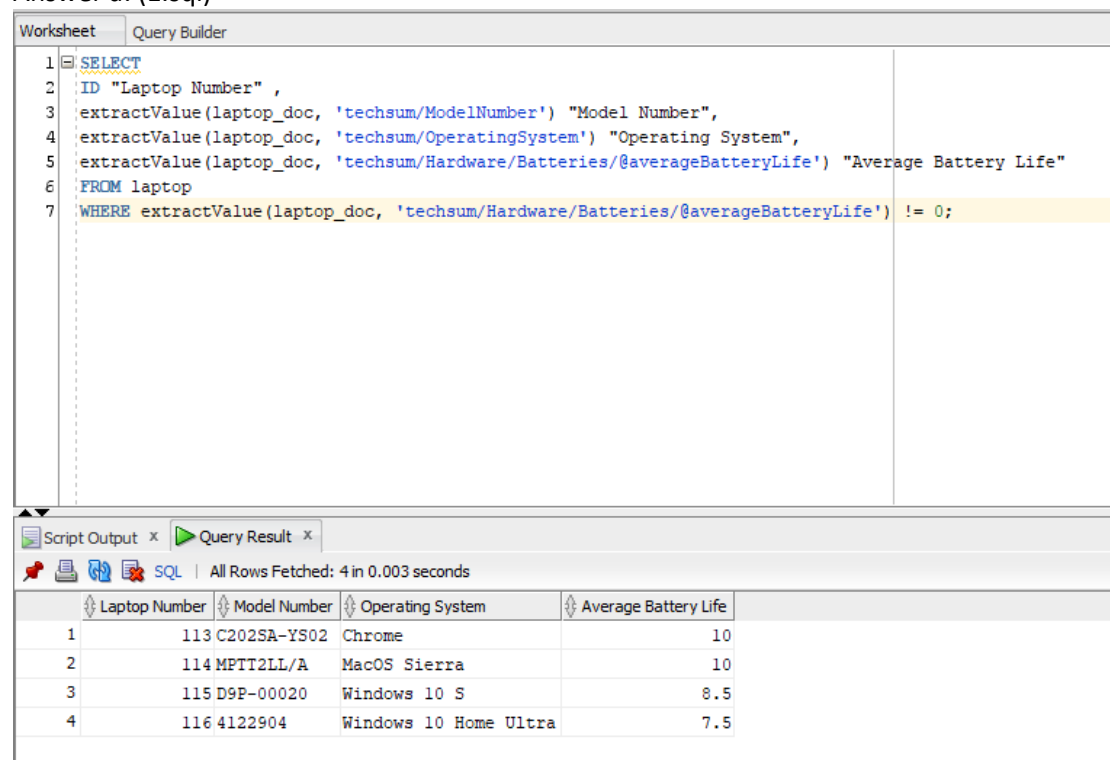


After the data has been stored in your table, **provide SQL and the result** for the following queries:

- Provide a list of laptops which include information about Average Battery Life (in hours). The result should display laptop number, item model number, operating system and average battery life.
- Provide a report which lists all laptops that have their item weight greater than 1 kg. The result should display laptop number, product description, price and item weight.
- Provide a report which lists all laptops that have their screen resolutions of at least a full HD. A full HD screen resolution or better must have at least 1920 pixels in length and 1080 pixels in width. The result should show laptop number, ram capacity, and the screen size (in pixels) in the numerical format of **L x W** (e.g. **1920 x 1080**).
- Provide a report on laptops whose batteries are not a combination of “battery **type**” lithium and “battery **charge technology**” ion. The result should show laptop number, item model number, **battery type** (e.g., lithium, nickel metal hydride (NiMH), nickel cadmium (NiCad)) and **battery charge technology** (e.g., metal, polymer or ion for lithium batteries and perhaps, **other** for other battery types) **[20 marks]**.

Answer a: (1.sql)



The screenshot shows a SQL query builder interface with a 'Query Builder' tab. The query is as follows:

```

1 SELECT
2 ID "Laptop Number" ,
3 extractValue(laptop_doc, 'techsum/ModelNumber') "Model Number",
4 extractValue(laptop_doc, 'techsum/OperatingSystem') "Operating System",
5 extractValue(laptop_doc, 'techsum/Hardware/Batteries/@averageBatteryLife') "Average Battery Life"
6 FROM laptop
7 WHERE extractValue(laptop_doc, 'techsum/Hardware/Batteries/@averageBatteryLife') != 0;

```

Below the query, the 'Query Result' tab is active, showing the results of the query. The results are displayed in a table with the following columns: Laptop Number, Model Number, Operating System, and Average Battery Life. The results are as follows:

Laptop Number	Model Number	Operating System	Average Battery Life
1	113 C202SA-YS02	Chrome	10
2	114 MFTI2LL/A	MacOS Sierra	10
3	115 D9P-00020	Windows 10 S	8.5
4	116 4122904	Windows 10 Home Ultra	7.5

Answer b: (2.sql)

Worksheet Query Builder

```

1 SELECT id,
2     xmldoc.productdescription, concat(xmldoc.pricecurrency ,xmldoc.price),
3     xmldoc.weight
4 FROM   laptop,
5     XMLTABLE('/techsum' passing laptop.laptop_doc COLUMNS productdescription VARCHAR2(50) path 'ProductDescription',
6     pricecurrency VARCHAR2(3) path 'Price/@Currency',
7     price VARCHAR2(8) path 'Price',
8     weightunit VARCHAR2(7) path 'ItemWeight/@Unit',
9     weight FLOAT(10) path 'ItemWeight' ) xmldoc
10 WHERE (
11     xmldoc.weight > 1
12     AND xmldoc.weightunit = 'KG')
13 OR (
14     xmldoc.weight > 2.2
15     AND xmldoc.weightunit = 'Pounds');

```

Script Output x Query Result x

SQL | All Rows Fetched: 3 in 0.001 seconds

ID	PRODUCTDESCRIPTION	CONCAT(XMLDOC.PRICECURRENCY,XMLDOC.PRICE)	WEIGHT
114	Apple 15" MacBook Pro (Newest Version)	USD2549.00	2.9
115	Go beyond the traditional laptop with Surface Lapt	AUD1272.00	1.25
116	MSI GS73 Stealth 8RF-009AU 17.3" 120Hz Gaming Lapt	AUD3699.00	1.9

Answer c: (3.sql)

LOCAL

0.009 seconds

Worksheet Query Builder

```

1 SELECT id "Laptop Number",
2     Extractvalue(laptop_doc, 'techsum/Hardware/RAM') "RAM",
3     CONCAT(
4     SUBSTR( Extractvalue(laptop_doc, 'techsum/Hardware/Screen/MaxScreenResolution'), 1,4 ) ,
5     ' * '),
6     SUBSTR( Extractvalue(laptop_doc, 'techsum/Hardware/Screen/MaxScreenResolution'), 8 ))
7     "Max Screen Resolution"
8 FROM   laptop
9 WHERE  SUBSTR( Extractvalue(laptop_doc, 'techsum/Hardware/Screen/MaxScreenResolution'), 1,4 ) >= 1920
10 AND
11     SUBSTR( Extractvalue(laptop_doc, 'techsum/Hardware/Screen/MaxScreenResolution'), 8 ) >= 1080;

```

Script Output x Query Result x

SQL | All Rows Fetched: 4 in 0.001 seconds

Laptop Number	RAM	Max Screen Resolution
112 8	2400	1600
114 16	2880	1800
115 4	2256	1504
116 16	1920	1080

Answer d: (4.sql)

LOCAL

Worksheet Query Builder

```
1 SELECT id "LAPTOPNO",
2 XMLQuery('for$a in /techsum
3 return $a/ModelNumber/text() '
4 PASSING laptop_doc
5 RETURNING CONTENT).getStringVal() "Model Number",
6 XMLQuery('for$a in /techsum
7 return $a/Hardware/Batteries/BatteryType/text() '
8 PASSING laptop_doc
9 RETURNING CONTENT).getStringVal() "Battery Type",
10 XMLQuery('for$a in /techsum
11 return $a/Hardware/Batteries/BatteryTech/text() '
12 PASSING laptop_doc
13 RETURNING CONTENT).getStringVal() "Battery Tech"
14 FROM laptop
15 WHERE NOT(XMLQuery('for$a in /techsum
16 return $a/Hardware/Batteries/BatteryType/text() '
17 PASSING laptop_doc
18 RETURNING CONTENT).getStringVal() = 'Lithium'
19 AND
20 XMLQuery('for$a in /techsum
21 return $a/Hardware/Batteries/BatteryTech/text() '
22 PASSING laptop_doc
23 RETURNING CONTENT).getStringVal() = 'ion');
```

Script Output x Query Result x

SQL | All Rows Fetched: 4 in 0.048 seconds

	LAPTOPNO	Model Number	Battery Type	Battery Tech
1	113	C202SA-YS02	Lithium	Polymer
2	114	MPTT2LL/A	Lithium	Metal
3	115	D9P-00020	Lithium	Metal
4	116	4122904	Lithium	Metal