

4- Activity - Filter a SQL query

Task 1: Listing All Organization Machines

Objective:

Retrieve a comprehensive list of all machines within the organization along with their operating systems. This task involves querying the `machines` table to extract specific columns:

`device_id` and `operating_system`.

```
SELECT device_id, operating_system FROM machines;
```

Outcome:

The query returned the total number of machines in the organization. The exact number of rows can be viewed at the bottom of the query output.

```
| y943z930a241 | OS 1 |
| y976z753a267 | OS 2 |
| z381a365b233 | OS 3 |
| z451a308b518 | OS 2 |
| z566a147b347 | OS 1 |
| z654a154b259 | OS 2 |
| z803a233b718 | OS 1 |
| z821a946b264 | OS 3 |
| z942a966b589 | OS 3 |
+-----+-----+
200 rows in set (0.130 sec)
```

Task 2: Identifying Machines Running OS 2

Objective:

Identify all machines running the `'OS 2'` operating system, as these devices require an update. This task involved filtering the data retrieved from the `machines` table.

```
SELECT device_id, operating_system FROM machines WHERE operating_system = 'OS 2';
```

Outcome:

The query successfully returned 80 machines running `'OS 2'`, which are flagged for updates.

```

| u425v921w138 | OS 2 |
| u849v569w521 | OS 2 |
| v109w587x644 | OS 2 |
| v135w241x773 | OS 2 |
| v200w121x977 | OS 2 |
| v491w553x421 | OS 2 |
| v852w513x954 | OS 2 |
| w237x430y567 | OS 2 |
| w981x771y326 | OS 2 |
| x127y181z890 | OS 2 |
| x561y839z458 | OS 2 |
| y103z561a649 | OS 2 |
| y131z211a578 | OS 2 |
| y132z930a114 | OS 2 |
| y246z508a775 | OS 2 |
| y347z204a710 | OS 2 |
| y765z123a548 | OS 2 |
| y976z753a267 | OS 2 |
| z451a308b518 | OS 2 |
| z654a154b259 | OS 2 |
+-----+-----+
80 rows in set (0.081 sec)

```

Task 3: Listing Employees in Specific Departments

Objective:

Retrieve a list of employees working in the Finance and Sales departments to facilitate the distribution of notices regarding handling confidential financial information.

1- Finance Department Query:

```
SELECT * FROM employees WHERE department = 'Finance';
```

Result: The first employee listed in the Finance department has the `employee_id` 1003.

```
MariaDB [organization]> SELECT * FROM employees WHERE department = 'Finance';
```

employee_id	device_id	username	department	office
1003	d394e816f943	sgilmore	Finance	South-153
1007	h174i497j413	wjaffrey	Finance	North-406
1008	i858j583k571	abernard	Finance	South-170
1010	k242l212m542	jlansky	Finance	South-109
1015	p611q262r945	jsoto	Finance	North-271
1017	r550s824t230	jclark	Finance	North-188
1018	s310t540u653	abellmas	Finance	North-403
1022	w237x430y567	arusso	Finance	West-465
1029	d336e475f676	ivelasco	Finance	East-156
1044	s429t157u159	tbarnes	Finance	West-415
1045	t567u844v434	pwashing	Finance	East-115
1046	u429v921w138	daquino	Finance	West-280
1047	v109w587x644	cward	Finance	West-373
1048	w167x592y375	tmitchel	Finance	South-288
1049	NULL	jreckley	Finance	Central-295
1050	y132z930a114	csimmons	Finance	North-468
1062	k367l639m697	redwards	Finance	North-180
1069	NULL	jpark	Finance	East-110
1076	y347z204a710	fgarcia	Finance	Central-270
1081	d647e310f618	qcorbit	Finance	South-290
1083	f840g812h544	gkoshi	Finance	West-165
1099	v283w690x104	anaser	Finance	West-357
1105	b551c837d758	kmei	Finance	Central-232
1122	s103t952u851	btorres	Finance	West-319
1136	g299h520i457	jhawes	Finance	West-416
1138	i671j355k725	sromero	Finance	South-329
1142	m674n127o823	lsilva	Finance	East-440
1144	NULL	erobinso	Finance	Central-266
1147	r454s225t299	tvega	Finance	West-177
1148	s328t505u907	dharvey	Finance	South-181
1159	d881e710f732	jshen	Finance	East-193
1164	i682j513k442	fsmeltz	Finance	North-163
1174	s371t911u987	eortiz	Finance	North-428
1175	t959u687v394	jclark2	Finance	North-194
1181	z803a233b718	sessa	Finance	South-207
1187	f963g637h851	bbode	Finance	East-351
1188	g164h566i795	noshiro	Finance	West-252
1195	n516o853p957	orainier	Finance	East-346

```
38 rows in set (0.001 sec)
```

2- Sales Department Query:

```
SELECT * FROM employees WHERE department = 'Sales';
```

Result: There are 33 employees in the Sales department.

```
MariaDB [organization]> SELECT * FROM employees WHERE department = 'Sales';
```

employee_id	device_id	username	department	office
1009	NULL	lrodriqu	Sales	South-134
1011	1748m120n401	drosas	Sales	South-292
1024	y976z753a267	iuduike	Sales	South-215
1025	z381a365b233	jhill	Sales	North-115
1035	j236k303l245	bisles	Sales	South-171
1039	n253o917p623	cjackson	Sales	East-378
1041	p929q222r778	cgriffin	Sales	North-208
1057	f370g535h632	mscott	Sales	South-270
1063	1686m140n569	lpope	Sales	East-226
1066	o678p794q957	ttyrell	Sales	Central-444
1071	t244u829v723	zdutchma	Sales	West-348
1072	u905v920w694	esmith	Sales	East-421
1078	a667b270c984	sharley	Sales	North-418
1085	h339i498j269	cperez	Sales	East-325
1086	i281j129k749	lmajumda	Sales	West-499
1089	l358m929n154	jpark2	Sales	West-251
1091	n378o313p469	rtran	Sales	Central-230
1092	o391p779q935	lpark	Sales	West-227
1098	u671v146w618	tarchamb	Sales	North-423
1107	d168e758f876	akajwara	Sales	North-471
1109	f229g533h679	nlocklea	Sales	East-196
1110	g567h376i314	pchaudhu	Sales	Central-428
1111	h835i179j862	jlee	Sales	West-309
1116	m272n572o874	nzhao	Sales	South-100
1117	n683o758p820	dahmad	Sales	West-405
1118	o305p208q337	jpark3	Sales	South-329
1119	p164q780r999	omubarak	Sales	West-409
1121	r628s557t397	mrojas	Sales	East-288
1130	a317b635c465	tsnow	Sales	Central-451
1169	NULL	mmitchel	Sales	Central-250
1176	u849v569w521	nliu	Sales	West-220
1185	d790e839f461	revens	Sales	North-330
1186	e281f433g404	sacosta	Sales	North-460

```
33 rows in set (0.001 sec)
```

Task 4: Identifying Employee Machines in the South Building

Objective:

Identify employees associated with machines in the South building, especially focusing on those in South-109, where issues have been detected.

1- Query to Identify the Employee in South-109:

```
SELECT username, office FROM employees WHERE office = 'South-109';
```

Result: The employee using the problematic machine in South-109 is jlansky.

```
MariaDB [organization]> SELECT username, office FROM employees WHERE office = 'South-109';
+-----+-----+
| username | office |
+-----+-----+
| jlansky  | South-109 |
+-----+-----+
1 row in set (0.001 sec)
```

2- Query to Identify All Employees in the South Building:

SELECT username, office, department FROM employees WHERE office LIKE 'South%';

Result: The first employee listed in the South building belongs to the Finance department.

```
MariaDB [organization]> SELECT username, office, department FROM employees WHERE office LIKE 'South%';
+-----+-----+-----+
| username | office | department |
+-----+-----+-----+
| sgilmore | South-153 | Finance |
| eraab    | South-127 | Human Resources |
| gesparza | South-366 | Human Resources |
| abernard | South-170 | Finance |
| lrodrigu | South-134 | Sales |
| jlansky  | South-109 | Finance |
| drosas   | South-292 | Sales |
| zbernal  | South-229 | Information Technology |
| arutley  | South-351 | Marketing |
| smartell | South-138 | Information Technology |
| iuduike  | South-215 | Sales |
| bisles   | South-171 | Sales |
| tmitchel | South-288 | Finance |
| mscott   | South-270 | Sales |
| madebowa | South-119 | Marketing |
| jnguyen  | South-255 | Marketing |
| ejones   | South-477 | Marketing |
| qcorbit  | South-290 | Finance |
| nhuyinh  | South-155 | Human Resources |
| cpatel   | South-351 | Information Technology |
| jlee     | South-254 | Human Resources |
| kselassi | South-378 | Marketing |
| jcohen   | South-395 | Marketing |
| ccruz    | South-298 | Information Technology |
| nzhaio   | South-100 | Sales |
| jpark3   | South-329 | Sales |
| ekonya   | South-445 | Human Resources |
| mrodgers | South-490 | Marketing |
| asierra  | South-159 | Information Technology |
| mwood    | South-166 | Human Resources |
| sromero  | South-329 | Finance |
| cochuba  | South-282 | Human Resources |
| msosa    | South-345 | Human Resources |
| dharvey  | South-181 | Finance |
| klim     | South-411 | Information Technology |
| nwords   | South-128 | Marketing |
| jharris  | South-305 | Information Technology |
| ialcazar | South-429 | Marketing |
| sessa    | South-207 | Finance |
| sshah2   | South-385 | Information Technology |
| jmartine | South-117 | Marketing |
+-----+-----+-----+
```

Reflection:

This project provided valuable experience in using SQL for data retrieval within a cybersecurity context. The tasks involved querying various organizational data sets to extract critical

information about machines and employee details, which are essential for maintaining security and operational efficiency.