A SQL project based on my learnings and various conditions

Introduction

I have used some dummy data to accomplish the SQL problems.

I have run these queries in Microsoft SQL Server Management Studio

Retrieve the grade_level from the job_grade table using non EQUI JOIN

Solution Query:

```
select id,
concat(first_name,' ',last_name) employee_name,
salary, Grade_Level
from employees e
join job_grade j on e.salary between j.lowest_salary and
j.highest_salary
order by id
```

Job_Grade Table Snip:

Grade_Level	lowest_salary	highest_salary
Associate	0	20000
Senior Associate	20001	35000
Managerial	35001	45000
Associate VP	45001	60000
VP	60001	80000

Employees Table Snip:

id	first_name	last_name	email	gender	salary	department_id
1	Iona	Emblin	iemblin0@shop-pro.jp	Female	46200	DPMT1
2	Torry	Bilbrooke	tbilbrooke1@nytimes.com	Male	54800	DPMT2
3	Lyda	Screaton	lscreaton2@google.cn	Female	77800	DPMT3
4	Tiffany	Thornbarrow	tthornbarrow3@imageshack.us	Female	30300	DPMT4

Result Table Snip:

id	employee_name	salary	Grade_Level
1	Iona Emblin	46200	Associate VP
2	Torry Bilbrooke	54800	Associate VP
3	Lyda Screaton	77800	VP
4	Tiffany Thornbarrow	30300	Senior Associate
5	Rozelle Dimblebee	42700	Managerial
6	Dara McIlwrath	65600	VP
7	Harbert Tschursch	49100	Associate VP
8	Ferd Allingham	69400	VP
9	Pandora Farr	62700	VP
10	Kinsley Geach	30000	Senior Associate

Find out employees' salary percentage within his/her department

Solution Query:

```
select id,
first_name + ' ' + last_name employee_name,
salary,
department_id,
format(salary*1.0/sum(salary) over(partition by
department_id order by department_id),'#.00%')
salary_percentage_within_department
from employees
```

Employees Table Snip:

id	first_name	last_name	email	gender	salary	department_id
1	Iona	Emblin	iemblin0@shop-pro.jp	Female	46200	DPMT1
2	Torry	Bilbrooke	tbilbrooke1@nytimes.com	Male	54800	DPMT2
3	Lyda	Screaton	lscreaton2@google.cn	Female	77800	DPMT3
4	Tiffany	Thornbarrow	tthornbarrow3@imageshack.us	Female	30300	DPMT4

Result Table Snip:

id	employee_name	salary	department_id	salary_percentage_within_department
1	Iona Emblin	46200	DPMT1	12.55%
33	Katusha Polet	64100	DPMT1	17.42%
37	Hiram Greenroad	54900	DPMT1	14.92%
53	Jacobo Gregine	71600	DPMT1	19.46%
59	Shurlock Cresswell	55000	DPMT1	14.95%
67	Arne Brisson	54700	DPMT1	14.86%
88	Gaven Lundon	21500	DPMT1	5.84%
58	Kerrin Woehler	19300	DPMT10	8.31%

Group all employees' first_name within their department

Solution Query:

```
select department_id,
STRING_AGG(first_name,', ') within group(order by
first_name) "employees in a group"
from employees
group by department_id
```

Employees Table Snip:

id	first_name	last_name	email	gender	salary	department_id
1	Iona	Emblin	iemblin0@shop-pro.jp	Female	46200	DPMT1
2	Torry	Bilbrooke	tbilbrooke1@nytimes.com	Male	54800	DPMT2
3	Lyda	Screaton	lscreaton2@google.cn	Female	77800	DPMT3
4	Tiffany	Thornbarrow	tthornbarrow3@imageshack.us	Female	30300	DPMT4

Result Table Snip:

department_id	employees in a group
DPMT1	Arne, Gaven, Hiram, Iona, Jacobo, Katusha, Shurlock
DPMT10	Alec, Berte, Cherry, Feliza, Kerrin
DPMT11	Evaleen, Purcell, Wylie
DPMT12	Florida, Hendrik, Latashia, Margit, Mikael, Waly
DPMT13	Braden, Delcina, Jennica, Pennie, Shani, Trudie, Weidar
DPMT14	Kyla, Rhetta
DPMT15	Berkley, Burke, Dale, Darelle, Gilbertine, Gustie, Jerrylee, Roddy
DPMT16	Beret, Erie, Foster

Find out top 3 employees salary earners within each group

Solution Query:

```
with top_three as (
select concat(first_name,' ',last_name) employee_name,
salary, department_id,
ROW_NUMBER() over(partition by department_id order by salary desc) rn
from employees)
select employee_name, department_id, salary
from top_three
where rn<=3
```

Employees Table Snip:

id	first_name	last_name	email	gender	salary	department_id
1	Iona	Emblin	iemblin0@shop-pro.jp	Female	46200	DPMT1
2	Torry	Bilbrooke	tbilbrooke1@nytimes.com	Male	54800	DPMT2
3	Lyda	Screaton	lscreaton2@google.cn	Female	77800	DPMT3
4	Tiffany	Thornbarrow	tthornbarrow3@imageshack.us	Female	30300	DPMT4

Result Table Snip:

employee_name	department_id	salary
Jacobo Gregine	DPMT1	71600
Katusha Polet	DPMT1	64100
Shurlock Cresswell	DPMT1	55000
Berte Kilfeder	DPMT10	69800
Cherry Primarolo	DPMT10	52000
Feliza Petch	DPMT10	51900
Wylie Kless	DPMT11	61900
Evaleen Kitchiner	DPMT11	52500
Purcell Hellier	DPMT11	33000

Sum inventory based on brands in their dedicated columns but in single row

Solution Query:

```
select sum(case when name='alibaba' then 1 else 0 end) Alibaba,
sum(case when name='amazon' then 1 else 0 end) Amazon,
sum(case when name='ebay' then 1 else 0 end) Ebay,
sum(case when name='flipkart' then 1 else 0 end) Flipkart,
sum(case when name='snapdeal' then 1 else 0 end) Sneapdeal
from ecom
```

Employees Table Snip:

Name	Sales	Profit	Revenue	Tax	Order_ID	Age	State	Product_Category
Amazon	156441699	1082403386	2.07E+11	1748580921	72620	44	Delhi	Fashion
Ebay	494525098	6831946765	1.83E+11	3484000017	43652	56	Delhi	Electronics
Snapdeal	543784909	11186781023	47067746304	893077748	80422	44	Chandigarh	Fashion
Flipkart	330512032	6144948200	74572832768	32016612	49658	42	Delhi	Home Appliances

Result Table Snip:

Alibaba	Amazon	Ebay	Flipkart	Sneapdeal
227	209	188	183	193