МИНИСТЕРСТВО науки и высшего ОБРАЗОВАНИЯ РОссИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ОБРАЗОВАТЕЛЬНОЕ

УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

«МОСКОВСКИЙ АВИАЦИОННЫЙ ИНСТИТУТ

(национальный исследовательский университет)»

Институт №3 «Системы управления, информатика и электроэнергетика»

Кафедра № 304 «Вычислительные машины, системы и сети»

Базы данных

Отчет по лабораторной работе № 4

«Многотабличные запросы»

Выполнил студент группы M3О-311Б-22

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Проверил доцент, к.т.н., Ткачев О.А.

Москва 2024 г.

Задача 1. Вывести название отдела, которым руководит менеджер 108 и

название города, в котором расположен отдел.

select d.manager\_id, d.department\_name, city

from departments d, locations l

where d.location\_id = l.location\_id

and manager\_id = 108

manager\_id|department\_name|city |

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108|Finance |Seattle|

Задача 2. Вывести названия отделов и названия товаров, которые продавали

сотрудники этих отделов.

Вариант а: вывести только те отделы, сотрудники которых продавали

товары.

> select salesman\_id, department\_name, p.product\_name

from departments d, products p, orders o, order\_items oi, employees e

where o.salesman\_id = e.employee\_id

and oi.product\_id = p.product\_id

and e.department\_id = d.department\_id

and oi.order\_id = o.order\_id

order by salesman\_id

salesman\_id|department\_name|product\_name |

-----------+---------------+---------------------------------------------------------------+

145|Sales |AMD Ryzen Threadripper 1920X (X399, TR4) |

145|Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

148|Sales |LG V30+ Black (H930DS) |

149|Sales |Logitech G910 Orion Spectrum RGB (920-008019) |

149|Sales |A4tech X-710BK USB |

149|Sales |Acer Predator Helios 300 PH317-51-7717 |

150|Sales |Razer DeathAdder Elite |

150|Sales |Intel Core i7 10700K OEM Comet Lake LGA1200 (CM8070104282436) |

150|Sales |MSI GP72 7RDX Leopard |

152|Sales | Intel Core i5 10600KF OEM Comet Lake LGA1200 (CM8070104282136)|

152|Sales |Intel Xeon E5-2699 V5 (OEM/Tray) |

152|Sales |Razer DeathAdder Elite |

152|Sales |ASUS ROG STRIX B550-E GAMING AM4 |

152|Sales |Lenovo IdeaPad 720-15 (81C70002RK) |

152|Sales |Intel Core i7 9700F OEM Coffee Lake Refresh 1151v2 |

152|Sales |ASUS GeForce RTX 3070 Dual OC 8GB (DUAL-RTX3070-O8G) |

152|Sales |Logitech G PRO Lightspeed HERO (910-005440) |

152|Sales |AMD 100-50606 |

153|Sales |AMD Ryzen Threadripper 1920X (X399, TR4) |

153|Sales |Lenovo IdeaPad 510-15 (80SV0047RK) |

153|Sales |Intel Core i7 10700K BOX Comet Lake LGA1200 (BX8070110700K) |

153|Sales |ASUS 27" VG279QM TUF Gaming |

153|Sales |AMD Athlon 200GE BOX AM4 VEGA 3 APU Raven Ridge (YD200GC6FBBOX)|

153|Sales |ASUS 27" VG279QM TUF Gaming |

153|Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

154|Sales |Apple iPhone XS 64GB Space Gray (MT9E2RU/A) |

154|Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

154|Sales |Kingston HyperX Alloy FPS |

154|Sales |Xiaomi Mi5 32GB |

155|Sales |AMD Athlon 200GE BOX AM4 VEGA 3 APU Raven Ridge (YD200GC6FBBOX)|

155|Sales |Dell Inspiron 7567 Black (7567-8821) |

155|Sales |Gigabyte B460M DS3H mATX LGA1200 |

155|Sales |Logitech G502 Proteus Spectrum Black USB |

155|Sales |Acer 27" Nitro VG270UPbmiipx |

155|Sales |Gigabyte GeForce RTX 3070 Eagle 8GB X3 (GV-N3070EAGLE-8GD) |

157|Sales |Lenovo IdeaPad Y700-15 (80NV0042RK) |

157|Sales |Logitech G PRO Lightspeed HERO (910-005440) |

158|Sales |Intel Core i7 9700F OEM Coffee Lake Refresh 1151v2 |

159|Sales |ASUS GeForce RTX 3080 TUF GAMING 10GB (TUF-RTX3080-10G-GAMING) |

159|Sales |Logitech G910 Orion Spectrum RGB (920-008019) |

160|Sales |Corsair K70 RGB MK.2 Cherry MX Red (CH-9109010-RU) |

160|Sales |AOC 32" CQ32G1 Gaming |

160|Sales |Lenovo IdeaPad 510-15 (80SV0047RK) |

161|Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

161|Sales |Gigabyte B450M S2H mATX AM4 |

161|Sales |AMD Athlon 200GE BOX AM4 VEGA 3 APU Raven Ridge (YD200GC6FBBOX)|

161|Sales |HP ProBook 430 G4 (Y7Z47EA) |

162|Sales |Gigabyte B450M S2H mATX AM4 |

162|Sales |Apple iPhone 8 Plus 256 GB |

162|Sales |Gigabyte GeForce RTX 3070 Eagle 8GB X3 (GV-N3070EAGLE-8GD) |

162|Sales |Gigabyte B450M S2H mATX AM4 |

162|Sales |Samsung Galaxy S7 Edge 32Gb Black (SM-G935) |

162|Sales |Logitech G910 Orion Spectrum RGB (920-008019) |

162|Sales |Intel Core i7 10700K BOX Comet Lake LGA1200 (BX8070110700K) |

162|Sales |AMD RYZEN 9 5950X BOX AM4 Vermeer (100-100000059WOF) |

162|Sales |MSI GP72 7RDX Leopard |

162|Sales |AOC 32" CQ32G1 Gaming |

162|Sales |Kingston HyperX Alloy FPS |

164|Sales |A4Tech Bloody B120 Black USB |

164|Sales |Kingston HyperX Alloy FPS |

164|Sales |Acer 27" Nitro VG270UPbmiipx |

164|Sales |Logitech G PRO Lightspeed HERO (910-005440) |

164|Sales |Apple iPhone 8 Plus 256 GB |

164|Sales |ASUS ROG STRIX B550-E GAMING AM4 |

164|Sales |Gigabyte 27" Aorus AD27QD-EK |

164|Sales |Dell Inspiron 7567 Black (7567-8821) |

164|Sales |HyperX Alloy Elite Cherry MX Red (HX-KB2RD1-RU/R1) |

164|Sales |Acer Predator Helios 300 PH317-51-7717 |

164|Sales |AMD FX-Series FX-6300 OEM |

164|Sales |Intel Core i7 9700F OEM Coffee Lake Refresh 1151v2 |

164|Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

164|Sales |ASUS GeForce RTX 3070 Dual OC 8GB (DUAL-RTX3070-O8G) |

164|Sales |Gigabyte 27" Aorus AD27QD-EK |

164|Sales |MSI GP72 7RDX Leopard |

164|Sales |ASUS GeForce RTX 3080 TUF GAMING 10GB (TUF-RTX3080-10G-GAMING) |

164|Sales |Lenovo IdeaPad 720-15 (81C70002RK) |

165|Sales |Gigabyte 27" Aorus AD27QD-EK |

166|Sales |AMD RYZEN 9 5950X BOX AM4 Vermeer (100-100000059WOF) |

166|Sales |LG V30+ Black (H930DS) |

166|Sales |Asus X99-E-10G WS |

166|Sales |ASUS GeForce RTX 3080 TUF GAMING 10GB (TUF-RTX3080-10G-GAMING) |

170|Sales |Intel Core i7 10700K OEM Comet Lake LGA1200 (CM8070104282436) |

171|Sales |Logitech G910 Orion Spectrum RGB (920-008019) |

171|Sales | Intel Core i5 10600KF OEM Comet Lake LGA1200 (CM8070104282136)|

171|Sales |G.Skill TridentZ RGB |

171|Sales |G.Skill TridentZ RGB |

174|Sales |Lenovo IdeaPad Y700-15 (80NV0042RK) |

174|Sales |Logitech G PRO Lightspeed HERO (910-005440) |

174|Sales |ASUS ROG STRIX B550-E GAMING AM4 |

175|Sales |A4tech X-710BK USB |

175|Sales |Apple iPhone 8 Plus 256 GB |

175|Sales |LG V30+ Black (H930DS) |

176|Sales |MSI GP72 7RDX Leopard |

177|Sales |MSI GeForce RTX 2060 SUPER VENTUS GP OC 8GB |

177|Sales |ASUS VivoBook Pro 15 N580VD-DM194T |

177|Sales |Apple iPhone 7 256Gb |

177|Sales |Asus X99-E-10G WS |

179|Sales |Apple MacBook Air 13 Early 2016 |

179|Sales |Lenovo IdeaPad 510-15 (80SV0047RK) |

179|Sales |Gigabyte B460M DS3H mATX LGA1200 |

179|Sales |Gigabyte 27" Aorus AD27QD-EK |

179|Sales | Intel Core i5 10600KF OEM Comet Lake LGA1200 (CM8070104282136)|

Вариант б: вывести все отделы.

> select d.department\_name, coalesce(p.product\_name, 'Nothing sold')

from departments d

left join employees e on d.department\_id = e.department\_id

left join orders o on e.employee\_id = o.salesman\_id

left join order\_items oi on o.order\_id = oi.order\_id

left join products p on oi.product\_id = p.product\_id

group by d.department\_name, p.product\_name

order by d.department\_name

department\_name |coalesce |

--------------------+---------------------------------------------------------------+

Accounting |Nothing sold |

Administration |Nothing sold |

Benefits |Nothing sold |

Construction |Nothing sold |

Contracting |Nothing sold |

Control And Credit |Nothing sold |

Corporate Tax |Nothing sold |

Executive |Nothing sold |

Finance |Nothing sold |

Government Sales |Nothing sold |

Human Resources |Nothing sold |

IT |Nothing sold |

IT Helpdesk |Nothing sold |

IT Support |Nothing sold |

Manufacturing |Nothing sold |

Marketing |Nothing sold |

NOC |Nothing sold |

Operations |Nothing sold |

Payroll |Nothing sold |

Public Relations |Nothing sold |

Purchasing |Nothing sold |

Recruiting |Nothing sold |

Retail Sales |Nothing sold |

Sales | Intel Core i5 10600KF OEM Comet Lake LGA1200 (CM8070104282136)|

Sales |A4Tech Bloody B120 Black USB |

Sales |A4tech X-710BK USB |

Sales |AMD 100-50606 |

Sales |AMD Athlon 200GE BOX AM4 VEGA 3 APU Raven Ridge (YD200GC6FBBOX)|

Sales |AMD FX-Series FX-6300 OEM |

Sales |AMD RYZEN 9 5950X BOX AM4 Vermeer (100-100000059WOF) |

Sales |AMD Ryzen Threadripper 1920X (X399, TR4) |

Sales |AOC 32" CQ32G1 Gaming |

Sales |ASUS 27" VG279QM TUF Gaming |

Sales |ASUS GeForce RTX 3070 Dual OC 8GB (DUAL-RTX3070-O8G) |

Sales |ASUS GeForce RTX 3080 TUF GAMING 10GB (TUF-RTX3080-10G-GAMING) |

Sales |ASUS ROG STRIX B550-E GAMING AM4 |

Sales |ASUS VivoBook Pro 15 N580VD-DM194T |

Sales |Acer 27" Nitro VG270UPbmiipx |

Sales |Acer Predator Helios 300 PH317-51-7717 |

Sales |Apple MacBook Air 13 Early 2016 |

Sales |Apple iPhone 7 256Gb |

Sales |Apple iPhone 8 Plus 256 GB |

Sales |Apple iPhone XS 64GB Space Gray (MT9E2RU/A) |

Sales |Asus X99-E-10G WS |

Sales |Corsair K70 RGB MK.2 Cherry MX Red (CH-9109010-RU) |

Sales |Dell Inspiron 7567 Black (7567-8821) |

Sales |G.Skill TridentZ RGB |

Sales |Gigabyte 27" Aorus AD27QD-EK |

Sales |Gigabyte B450M S2H mATX AM4 |

Sales |Gigabyte B460M DS3H mATX LGA1200 |

Sales |Gigabyte GeForce RTX 3070 Eagle 8GB X3 (GV-N3070EAGLE-8GD) |

Sales |Gigabyte Z490 AORUS PRO AX LGA1200 |

Sales |HP ProBook 430 G4 (Y7Z47EA) |

Sales |HyperX Alloy Elite Cherry MX Red (HX-KB2RD1-RU/R1) |

Sales |Intel Core i7 10700K BOX Comet Lake LGA1200 (BX8070110700K) |

Sales |Intel Core i7 10700K OEM Comet Lake LGA1200 (CM8070104282436) |

Sales |Intel Core i7 9700F OEM Coffee Lake Refresh 1151v2 |

Sales |Intel Xeon E5-2699 V5 (OEM/Tray) |

Sales |Kingston HyperX Alloy FPS |

Sales |LG V30+ Black (H930DS) |

Sales |Lenovo IdeaPad 510-15 (80SV0047RK) |

Sales |Lenovo IdeaPad 720-15 (81C70002RK) |

Sales |Lenovo IdeaPad Y700-15 (80NV0042RK) |

Sales |Logitech G PRO Lightspeed HERO (910-005440) |

Sales |Logitech G502 Proteus Spectrum Black USB |

Sales |Logitech G910 Orion Spectrum RGB (920-008019) |

Sales |MSI GP72 7RDX Leopard |

Sales |MSI GeForce RTX 2060 SUPER VENTUS GP OC 8GB |

Sales |Razer DeathAdder Elite |

Sales |Samsung Galaxy S7 Edge 32Gb Black (SM-G935) |

Sales |Xiaomi Mi5 32GB |

Sales |Nothing sold |

Shareholder Services|Nothing sold |

Shipping |Nothing sold |

Treasury |Nothing sold |

Задача 3. Вывести даты продаж, осуществленных в ноябре 2019 года, и

общую сумму продаж за каждую дату.

select o.order\_date, sum(unit\_price \* quantity) as total\_sales

from orders o natural join order\_items oi

where extract(month from o.order\_date) = 11 and extract(year from o.order\_date) = 2019

group by o.order\_date

order by o.order\_date

order\_date|total\_sales|

----------+-----------+

2019-11-01| 61160.00|

2019-11-02| 325600.00|

2019-11-23| 220400.00|

2019-11-29| 2760.00|

Задача 4. Выведите количество сотрудников и суммарную зарплату

сотрудников, работающих в каждом городе. Должны быть выведены данные

обо всех городах из таблицы Locations.

> select l.city,

count(e.employee\_id) as employee\_count,

coalesce(sum(e.salary), 0) as month\_salary\_sum

from locations l

left join departments d on l.location\_id = d.location\_id

left join employees e on d.department\_id = e.department\_id

group by l.city

order by l.city

city |employee\_count|month\_salary\_sum|

-------------------+--------------+----------------+

Beijing | 0| 0|

Bern | 0| 0|

Bombay | 0| 0|

Geneva | 0| 0|

Hiroshima | 0| 0|

London | 1| 6500.00|

Mexico City | 0| 0|

Milano | 0| 0|

Munich | 1| 10000.00|

Oxford | 34| 295500.00|

Roma | 0| 0|

Sao Paulo | 0| 0|

Seattle | 18| 159200.00|

Singapore | 0| 0|

South Brunswick | 0| 0|

South San Francisco| 44| 151100.00|

Southlake | 5| 28800.00|

Stretford | 0| 0|

Sydney | 0| 0|

Tokyo | 0| 0|

Toronto | 2| 19000.00|

Utrecht | 0| 0|

Whitehorse | 0| 0|

Задача 5. Вывести данные о сотрудниках, у которых сумма продаж более

чем в 50 раз больше зарплаты, которую они получают.

> select e.employee\_id, concat(e.first\_name, ' ', e.last\_name) as full\_name, e.salary,

sum(oi.unit\_price \* oi.quantity) as total\_sales,

round(sum(oi.unit\_price \* oi.quantity) / e.salary, 1) as sales\_to\_salary

from employees e

left join orders o on e.employee\_id = o.salesman\_id

left join order\_items oi on o.order\_id = oi.order\_id

group by e.employee\_id

having sum(oi.unit\_price \* oi.quantity) > 50 \* e.salary

employee\_id|full\_name |salary |total\_sales|sales\_to\_salary|

-----------+-----------------+--------+-----------+---------------+

179|Charles Johnson | 6200.00| 1199100.00| 193.4|

162|Clara Vishney |10500.00| 1763220.00| 167.9|

155|Oliver Tuvault | 7000.00| 526380.00| 75.2|

161|Sarath Sewall | 7000.00| 504730.00| 72.1|

153|Christopher Olsen| 8000.00| 973650.00| 121.7|

164|Mattea Marvins | 7200.00| 2776310.00| 385.6|

160|Louise Doran | 7500.00| 544000.00| 72.5|

177|Jack Livingston | 8400.00| 447750.00| 53.3|

171|William Smith | 7400.00| 577600.00| 78.1|

Задача 6. Найти сотрудников, являющихся начальниками и вывести

employee\_id, first\_name, last\_name начальников и сотрудников, которые

находятся в их непосредственном подчинении.

> select m.employee\_id as manager\_id,

concat(m.first\_name, ' ', m.last\_name) as manager\_full\_name,

e.employee\_id as employee\_id,

concat(e.first\_name, ' ', e.last\_name) as employee\_full\_name

from employees e

join employees m on e.manager\_id = m.employee\_id

order by m.employee\_id, e.employee\_id

manager\_id|manager\_full\_name|employee\_id|employee\_full\_name|

----------+-----------------+-----------+------------------+

100|Steven King | 101|Neena Kochhar |

100|Steven King | 102|Lex De Haan |

100|Steven King | 114|Den Raphaely |

100|Steven King | 120|Matthew Weiss |

100|Steven King | 121|Adam Fripp |

100|Steven King | 122|Payam Kaufling |

100|Steven King | 123|Shanta Vollman |

100|Steven King | 124|Kevin Mourgos |

100|Steven King | 145|John Russell |

100|Steven King | 146|Karen Partners |

100|Steven King | 147|Alberto Errazuriz |

100|Steven King | 148|Gerald Cambrault |

100|Steven King | 149|Eleni Zlotkey |

100|Steven King | 201|Michael Hartstein |

101|Neena Kochhar | 108|Nancy Greenberg |

101|Neena Kochhar | 200|Jennifer Whalen |

101|Neena Kochhar | 203|Susan Mavris |

101|Neena Kochhar | 204|Hermann Baer |

101|Neena Kochhar | 205|Shelley Higgins |

102|Lex De Haan | 103|Alexander Hunold |

103|Alexander Hunold | 104|Bruce Ernst |

103|Alexander Hunold | 105|DAVID Austin |

103|Alexander Hunold | 106|Valli Pataballa |

103|Alexander Hunold | 107|Diana Lorentz |

108|Nancy Greenberg | 109|Daniel Faviet |

108|Nancy Greenberg | 110|John Chen |

108|Nancy Greenberg | 111|Ismael Sciarra |

108|Nancy Greenberg | 112|Jose Manuel Urman |

108|Nancy Greenberg | 113|Luis Popp |

114|Den Raphaely | 115|Alexander Khoo |

114|Den Raphaely | 116|Shelli Baida |

114|Den Raphaely | 117|Sigal Tobias |

114|Den Raphaely | 118|Guy Himuro |

114|Den Raphaely | 119|Karen Colmenares |

120|Matthew Weiss | 126|Irene Mikkilineni |

120|Matthew Weiss | 127|James Landry |

120|Matthew Weiss | 128|Steven Markle |

120|Matthew Weiss | 180|Winston Taylor |

120|Matthew Weiss | 181|Jean Fleaur |

120|Matthew Weiss | 182|Martha Sullivan |

120|Matthew Weiss | 183|Girard Geoni |

121|Adam Fripp | 129|Laura Bissot |

121|Adam Fripp | 130|Mozhe Atkinson |

121|Adam Fripp | 131|James Marlow |

121|Adam Fripp | 132|TJ Olson |

121|Adam Fripp | 184|Nandita Sarchand |

121|Adam Fripp | 185|Alexis Bull |

121|Adam Fripp | 186|Julia Dellinger |

121|Adam Fripp | 187|Anthony Cabrio |

122|Payam Kaufling | 133|Jason Mallin |

122|Payam Kaufling | 134|Michael Rogers |

122|Payam Kaufling | 135|Ki Gee |

122|Payam Kaufling | 136|Hazel Philtanker |

122|Payam Kaufling | 188|Kelly Chung |

122|Payam Kaufling | 189|Jennifer Dilly |

122|Payam Kaufling | 190|Timothy Gates |

122|Payam Kaufling | 191|Randall Perkins |

123|Shanta Vollman | 137|Renske Ladwig |

123|Shanta Vollman | 138|Stephen Stiles |

123|Shanta Vollman | 139|John Seo |

123|Shanta Vollman | 140|Joshua Patel |

123|Shanta Vollman | 192|Sarah Bell |

123|Shanta Vollman | 193|Britney Everett |

123|Shanta Vollman | 194|Samuel McCain |

123|Shanta Vollman | 195|Vance Jones |

124|Kevin Mourgos | 141|Trenna Rajs |

124|Kevin Mourgos | 142|Curtis Davies |

124|Kevin Mourgos | 143|Randall Matos |

124|Kevin Mourgos | 144|Peter Vargas |

124|Kevin Mourgos | 196|Alana Walsh |

124|Kevin Mourgos | 197|Kevin Feeney |

124|Kevin Mourgos | 198|Donald OConnell |

124|Kevin Mourgos | 199|Douglas Grant |

145|John Russell | 150|Peter Tucker |

145|John Russell | 151|David Bernstein |

145|John Russell | 152|Peter Hall |

145|John Russell | 153|Christopher Olsen |

145|John Russell | 154|Nanette Cambrault |

145|John Russell | 155|Oliver Tuvault |

146|Karen Partners | 156|Janette King |

146|Karen Partners | 157|Patrick Sully |

146|Karen Partners | 158|Allan McEwen |

146|Karen Partners | 159|Lindsey Smith |

146|Karen Partners | 160|Louise Doran |

146|Karen Partners | 161|Sarath Sewall |

147|Alberto Errazuriz| 162|Clara Vishney |

147|Alberto Errazuriz| 163|Danielle Greene |

147|Alberto Errazuriz| 164|Mattea Marvins |

147|Alberto Errazuriz| 165|David Lee |

147|Alberto Errazuriz| 166|Sundar Ande |

147|Alberto Errazuriz| 167|Amit Banda |

148|Gerald Cambrault | 168|Lisa Ozer |

148|Gerald Cambrault | 169|Harrison Bloom |

148|Gerald Cambrault | 170|Tayler Fox |

148|Gerald Cambrault | 171|William Smith |

148|Gerald Cambrault | 172|Elizabeth Bates |

148|Gerald Cambrault | 173|Sundita Kumar |

149|Eleni Zlotkey | 174|Ellen Abel |

149|Eleni Zlotkey | 175|Alyssa Hutton |

149|Eleni Zlotkey | 176|Jonathon Taylor |

149|Eleni Zlotkey | 177|Jack Livingston |

149|Eleni Zlotkey | 178|Kimberely Grant |

149|Eleni Zlotkey | 179|Charles Johnson |

201|Michael Hartstein| 202|Pat Fay |

205|Shelley Higgins | 206|William Gietz |

Задача 7. Выведите данные зарплате сотрудников, с итоговыми строками,

которые содержат суммарную зарплату по каждой должности, отделу и

городу. Исключить данные о сотрудниках, которые работают в США

(country\_id ='US').

> select

j.job\_title as job\_title,

d.department\_name as department\_name,

l.city as city,

sum(e.salary) as total\_salary

from

employees e

join

departments d on e.department\_id = d.department\_id

join

jobs j on e.job\_id = j.job\_id

join

locations l on d.location\_id = l.location\_id

where

l.country\_id <> 'US'

group by

grouping sets (

(j.job\_title), -- сумма по каждой должности

(d.department\_name), -- сумма по каждому отделу

(l.city), -- сумма по каждому городу

() -- общая сумма по всем сотрудникам

)

order by

grouping(j.job\_title),

grouping(d.department\_name),

grouping(l.city)

job\_title |department\_name |city |total\_salary|

-------------------------------+----------------+-------+------------+

Sales Representative | | | 234500.00|

Human Resources Representative | | | 6500.00|

Marketing Representative | | | 6000.00|

Marketing Manager | | | 13000.00|

Sales Manager | | | 61000.00|

Public Relations Representative| | | 10000.00|

|Human Resources | | 6500.00|

|Sales | | 295500.00|

|Public Relations| | 10000.00|

|Marketing | | 19000.00|

| |Munich | 10000.00|

| |London | 6500.00|

| |Toronto| 19000.00|

| |Oxford | 295500.00|

| | | 331000.00|