

Министерство образования Республики Беларусь
Учреждение образования
«БЕЛОРУССКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ
ИНФОРМАТИКИ И РАДИОЭЛЕКТРОНИКИ»

Факультет компьютерного проектирования
Кафедра экономической информатики

ОТЧЁТ

Лабораторная работа №4.2

«Выборка из одной таблицы. Выборка с добавлением.
Выбор уникальных строк. Извлечение диапазона строк. Сортировка.»

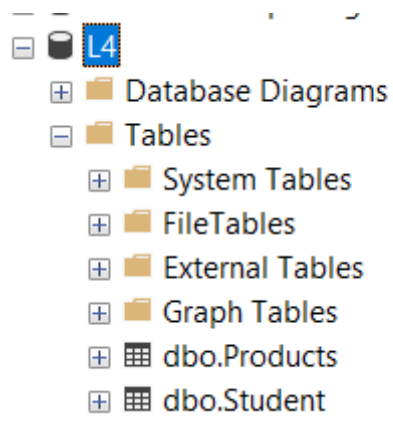
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Минск 2023

1. Создать таблицу Products.



2. Заполнить данными таблицу.

DESKTOP-7L6U0EU\S...L4 - dbo.Products						FillProductsTable.s...EXPRESS.L4					
	Id	ProductNa...	Manufactur...	ProductCo...	Price						
▶	1	GalaxyS8	Samsung	2	46000,0000						
	2	GalaxyS8Plus	Samsung	1	56000,0000						
	3	iPhone6	Apple	3	36000,0000						
	4	iPhone6S	Apple	2	41000,0000						
	5	iPhone7	Apple	5	52000,0000						
	6	Mi6	Xiaomi	5	28,0000						
	7	OnePlus5	OnePlus	6	38000,0000						
*	NULL	NULL	NULL	NULL	NULL						

3 Произвести выборку данных по 3-м столбцам.

SQLQuery5.sql - DE...XPRESS.L4 (sa (66))*

```
1 use L4
2
3 SELECT * FROM Products;
4
5 SELECT ProductName + ' (' + Manufacturer + ')', Price, Price * ProductCount
6
7 FROM Products;
```

108 %

Results Messages

	Id	ProductName	Manufacturer	ProductCount	Price
1	1	GalaxyS8	Samsung	2	46000,00
2	2	GalaxyS8Plus	Samsung	1	56000,00
3	3	iPhone6	Apple	3	36000,00
4	4	iPhone6S	Apple	2	41000,00
5	5	iPhone7	Apple	5	52000,00
6	6	Mi6	Xiaomi	5	28,00
7	7	OnePlus5	OnePlus	6	38000,00

	(No column name)	Price	(No column name)
1	GalaxyS8 (Samsung)	46000,00	92000,00
2	GalaxyS8Plus (Samsung)	56000,00	56000,00
3	iPhone6 (Apple)	36000,00	108000,00
4	iPhone6S (Apple)	41000,00	82000,00
5	iPhone7 (Apple)	52000,00	260000,00
6	Mi6 (Xiaomi)	28,00	140,00
7	OnePlus5 (OnePlus)	38000,00	228000,00

SQLQuery5.sql - DE...XPRESS.L4 (sa (66))*

```
1 use L4
2
3 SELECT ProductName + ' (' + Manufacturer + ') AS ModelName,
4 Price,
5 Price * ProductCount AS TotalSum
6 FROM Products;
```

108 %

Results Messages

	ModelName	Price	TotalSum
1	GalaxyS8 (Samsung)	46000,00	92000,00
2	GalaxyS8Plus (Samsung)	56000,00	56000,00
3	iPhone6 (Apple)	36000,00	108000,00
4	iPhone6S (Apple)	41000,00	82000,00
5	iPhone7 (Apple)	52000,00	260000,00
6	Mi6 (Xiaomi)	28,00	140,00
7	OnePlus5 (OnePlus)	38000,00	228000,00

5 Выборка данных с добавлением.

SQLQuery5.sql - DE...XPRESS.L4 (sa (66))*

```
1 use L4
2
3 SELECT ProductName + ' (' + Manufacturer + ')' AS ModelName,
4 Price INTO ProductsSummary FROM Products SELECT * FROM ProductsSummary
```

108 %

Results Messages

	ModelName	Price
1	GalaxyS8 (Samsung)	46000.00
2	GalaxyS8Plus (Samsung)	56000.00
3	iPhone6 (Apple)	36000.00
4	iPhone6S (Apple)	41000.00
5	iPhone7 (Apple)	52000.00
6	Mi6 (Xiaomi)	28.00
7	OnePlus5 (OnePlus)	38000.00

L4

- + Database Diagrams
- Tables
 - + System Tables
 - + FileTables
 - + External Tables
 - + Graph Tables
 - + dbo.Products
 - + dbo.ProductsSummary
 - + dbo.Student

6 Сортировка по возрастанию, убыванию, по столбцам Manufacturer и ProductName.

SortBASED.sql - DE...XPRESS.L4 (sa (53))* SQLQuery5.sql - DE...XPRESS.L4 (sa (66))*

```
1 use L4;
2
3 -- Сортировка по столбцу ProductName по возрастанию
4 SELECT * FROM Products
5 ORDER BY ProductName ASC;
6
7 -- Сортировка по столбцу ProductName по убыванию
8 SELECT * FROM Products
9 ORDER BY ProductName DESC;
10
11 -- Сортировка по нескольким столбцам: сначала по Manufacturer, затем по ProductName
12 SELECT * FROM Products
13 ORDER BY Manufacturer ASC, ProductName ASC;
```

74 %

Results Messages

	Id	ProductName	Manufacturer	ProductCount	Price
1	1	GalaxyS8	Samsung	2	46000,00
2	2	GalaxyS8Plus	Samsung	1	56000,00
3	3	iPhone6	Apple	3	36000,00
4	4	iPhone6S	Apple	2	41000,00
5	5	iPhone7	Apple	5	52000,00
6	6	Mi6	Xiaomi	5	28,00
7	7	OnePlus5	OnePlus	6	38000,00

	Id	ProductName	Manufacturer	ProductCount	Price
1	7	OnePlus5	OnePlus	6	38000,00
2	6	Mi6	Xiaomi	5	28,00
3	5	iPhone7	Apple	5	52000,00
4	4	iPhone6S	Apple	2	41000,00
5	3	iPhone6	Apple	3	36000,00
6	2	GalaxyS8Plus	Samsung	1	56000,00
7	1	GalaxyS8	Samsung	2	46000,00

	Id	ProductName	Manufacturer	ProductCount	Price
1	3	iPhone6	Apple	3	36000,00
2	4	iPhone6S	Apple	2	41000,00
3	5	iPhone7	Apple	5	52000,00
4	7	OnePlus5	OnePlus	6	38000,00
5	1	GalaxyS8	Samsung	2	46000,00
6	2	GalaxyS8Plus	Samsung	1	56000,00
7	6	Mi6	Xiaomi	5	28,00

7 Сортировка по псевданиму столбца

SortAS.sql - DESKT...XPRESS.L4 (sa (64))* SortBASED.sql - DE...XPRESS.L4 (sa (53))*

```
1 use L4;  
2  
3 Select ProductName, ProductCount * Price AS TotalSum from Products order by TotalSum;
```

74 %

Results Messages

	ProductName	TotalSum
1	Mi6	140,00
2	GalaxyS8Plus	56000,00
3	iPhone6S	82000,00
4	GalaxyS8	92000,00
5	iPhone6	108000,00
6	OnePlus5	228000,00
7	iPhone7	260000,00

8 Использование сложного выражения в качестве критерия сортировки

SortAS.sql - DESKT...XPRESS.L4 (sa (64))* SortBASED.sql - DE...XPRESS.L4 (sa (53))*

```
1 use L4;  
2  
3 Select ProductName, Price, ProductCount  
4 from Products order by ProductCount * Price;
```

74 %

Results Messages

	ProductName	Price	ProductCount
1	Mi6	28,00	5
2	GalaxyS8Plus	56000,00	1
3	iPhone6S	41000,00	2
4	GalaxyS8	46000,00	2
5	iPhone6	36000,00	3
6	OnePlus5	38000,00	6
7	iPhone7	52000,00	5

Самостоятельная работа:

Скрипт выполнения самостоятельной работы:

```
USE AdventureWorksDW2022;
```

```
SELECT EnglishProductName + ' (' + Color + ')' AS ModelName, StandardCost, StandardCost *  
SafetyStockLevel AS TotalSum  
FROM DimProduct;
```

```
SELECT EnglishProductName + ' (' + Color + ')' AS ModelName, StandardCost  
INTO ProductSummary  
FROM DimProduct;
```

```
SELECT * FROM ProductSummary;
```

```
-- Сортировка по общей сумме
```

```
SELECT EnglishProductName, SafetyStockLevel * StandardCost AS TotalSum  
FROM DimProduct  
ORDER BY TotalSum;
```

```
-- Сортировка по столбцу EnglishProductName по возрастанию
```

```
SELECT * FROM DimProduct  
ORDER BY EnglishProductName ASC;
```

```
-- Сортировка по столбцу EnglishProductName по убыванию
```

```
SELECT * FROM DimProduct  
ORDER BY EnglishProductName DESC;
```

```
-- Сортировка по нескольким столбцам: сначала по Color, затем по EnglishProductName
```

```
SELECT * FROM DimProduct  
ORDER BY Color ASC, EnglishProductName ASC;
```

```
-- Сортировка по ProductKey
```

```
SELECT EnglishProductName, StandardCost, SafetyStockLevel  
FROM DimProduct  
ORDER BY SafetyStockLevel * StandardCost;
```

Выполнение:

AdventureWorks202...sDW2022 (sa (83)) X SortHard.sql - DES...XPRESS.L4 (sa (82))* SortAS.sql - DESKT...XPRESS.

```
1 USE AdventureWorksDW2022;
2
3 SELECT EnglishProductName + ' (' + Color + ')' AS ModelName, StandardCost, StandardCost * SafetyStockLevel AS TotalSum
4 FROM DimProduct;
5
6 SELECT EnglishProductName + ' (' + Color + ')' AS ModelName, StandardCost
7 INTO ProductSummary
8 FROM DimProduct;
9
10 SELECT * FROM ProductSummary;
11
12 -- Сортировка по общей сумме
13 SELECT EnglishProductName, SafetyStockLevel * StandardCost AS TotalSum
14 FROM DimProduct
15 ORDER BY TotalSum;
16
17 -- Сортировка по столбцу EnglishProductName по возрастанию
18 SELECT * FROM DimProduct
19 ORDER BY EnglishProductName ASC;
20
21 -- Сортировка по столбцу EnglishProductName по убыванию
22 SELECT * FROM DimProduct
23 ORDER BY EnglishProductName DESC;
24
25 -- Сортировка по нескольким столбцам: сначала по Color, затем по EnglishProductName
26 SELECT * FROM DimProduct
27 ORDER BY Color ASC, EnglishProductName ASC;
28
29 -- Сортировка по ProductKey
30 SELECT EnglishProductName, StandardCost, SafetyStockLevel
31 FROM DimProduct
32 ORDER BY SafetyStockLevel * StandardCost;
33
```

74 %

Results Messages

	ModelName	StandardCost	TotalSum
1	Adjustable Race (NA)	NULL	NULL
2	Bearing Ball (NA)	NULL	NULL
3	BB Ball Bearing (NA)	NULL	NULL
4	Headset Ball Bearings (NA)	NULL	NULL
5	Blade (NA)	NULL	NULL
6	LL Crankarm (Black)	NULL	NULL
7	ML Crankarm (Black)	NULL	NULL
8	HL Crankarm (Black)	NULL	NULL

	ModelName	StandardCost
15	Decal 2 (NA)	NULL

Результаты:

	ModelName	StandardCost	TotalSum
1	Adjustable Race (NA)	NULL	NULL
2	Bearing Ball (NA)	NULL	NULL
3	BB Ball Bearing (NA)	NULL	NULL
4	Headset Ball Bearings (NA)	NULL	NULL
5	Blade (NA)	NULL	NULL
6	LL Crankarm (Black)	NULL	NULL
7	ML Crankarm (Black)	NULL	NULL
8	HL Crankarm (Black)	NULL	NULL

	ModelName	StandardCost
1	Adjustable Race (NA)	NULL
2	Bearing Ball (NA)	NULL
3	BB Ball Bearing (NA)	NULL
4	Headset Ball Bearings (NA)	NULL
5	Blade (NA)	NULL
6	LL Crankarm (Black)	NULL
7	ML Crankarm (Black)	NULL
8	HL Crankarm (Black)	NULL

	EnglishProductName	TotalSum
1	Adjustable Race	NULL
2	Bearing Ball	NULL
3	BB Ball Bearing	NULL
4	Headset Ball Bearin...	NULL
5	Blade	NULL
6	LL Crankarm	NULL
7	ML Crankarm	NULL
8	HL Crankarm	NULL

	ProductKey	ProductAlternateKey	ProductSubcategoryKey	WeightUnitMeasureCode	SizeUnitMeasureCode	EnglishProductName	SpanishProductName	FrenchProductName
10	447	LO-C100	34	NULL	NULL	Cable Lock	Cable antirrobo	Antivol câble
11	559	CH-0234	7	NULL	NULL	Chain	Cadena	Chaîne
12	13	CS-2812	NULL	NULL	NULL	Chain Stays		
13	11	CR-7833	NULL	NULL	NULL	Chaining		
14	9	CB-2903	NULL	NULL	NULL	Chaining Bolts		
15	10	CN-6137	NULL	NULL	NULL	Chaining Nut		
16	473	VE-C304-L	25	NULL	NULL	Classic Vest, L	Camiseta clásica, G	Veste classique, tai...
17	472	VE-C304-M	25	NULL	NULL	Classic Vest, M	Camiseta clásica, M	Veste classique, tai...
< >								
37	19	EC-T209	NULL	NULL	NULL	Touring End Caps		
38	207	TO-2301	NULL	NULL	NULL	Top Tube		
39	101	LJ-1213	NULL	NULL	NULL	Thin-Jam Lock Nut 9		
40	114	LJ-7162	NULL	NULL	NULL	Thin-Jam Lock Nut 8		
41	113	LJ-7161	NULL	NULL	NULL	Thin-Jam Lock Nut 7		
42	108	LJ-3824	NULL	NULL	NULL	Thin-Jam Lock Nut 6		
43	107	LJ-3816	NULL	NULL	NULL	Thin-Jam Lock Nut 5		
44	110	LJ-5162	NULL	NULL	NULL	Thin-Jam Lock Nut 4		
< >								
441	247	FR-R92R-52	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
442	248	FR-R92R-52	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
443	249	FR-R92R-52	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
444	250	FR-R92R-56	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
445	251	FR-R92R-56	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
446	252	FR-R92R-56	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
447	211	FR-R92R-58	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
448	238	FR-R92R-62	14	LB	CM	HL Road Frame - R...	Cuadro de carretera ...	Cadre de vélo de ro...
< >								
EnglishProductName StandardCost SafetyStockLevel								

	EnglishProductName	StandardCost	SafetyStockLevel
1	Adjustable Race	NULL	1000
2	Bearing Ball	NULL	1000
3	BB Ball Bearing	NULL	800
4	Headset Ball Bearin...	NULL	800
5	Blade	NULL	800
6	LL Crankarm	NULL	500
7	ML Crankarm	NULL	500
8	HL Crankarm	NULL	500

Query executed successfully