21. Creating GUI and Connecting the MySQL database

GUI yaratish va uni MySQL ma’lumotlar bazasi bilan ulash

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GUI – Graphical User Interface (foydalanuvchining grafik interfeysi).

GUI bu kompyuter dasturlarini foydalanuvchilar bilan o'zaro munosabatlarni boshqarish uchun grafik ekran(oyna) yoki desktop dasturdir.

GUI ko’p foydalanuvchilar uchun oson va tushunarlidir. U tugmalar, menyu elementlari, maydonchalar, ekranning o'lchami va shakli, grafik elementlar (masalan, tasvirlar yoki grafikalar) va boshqa vizual komponentlardan iborat bo'ladi.

Turli dasturlash tillari uchun turli xil GUI yaratuvchi dasturlar mavjud

Python – Tkinter, xmFormBuilder, Qt Designer, …

C++ – xmFormBuilder, Visual Studio C++ 2021,2022,…

Java – Netbeans, JavaFX, …

CONNECT

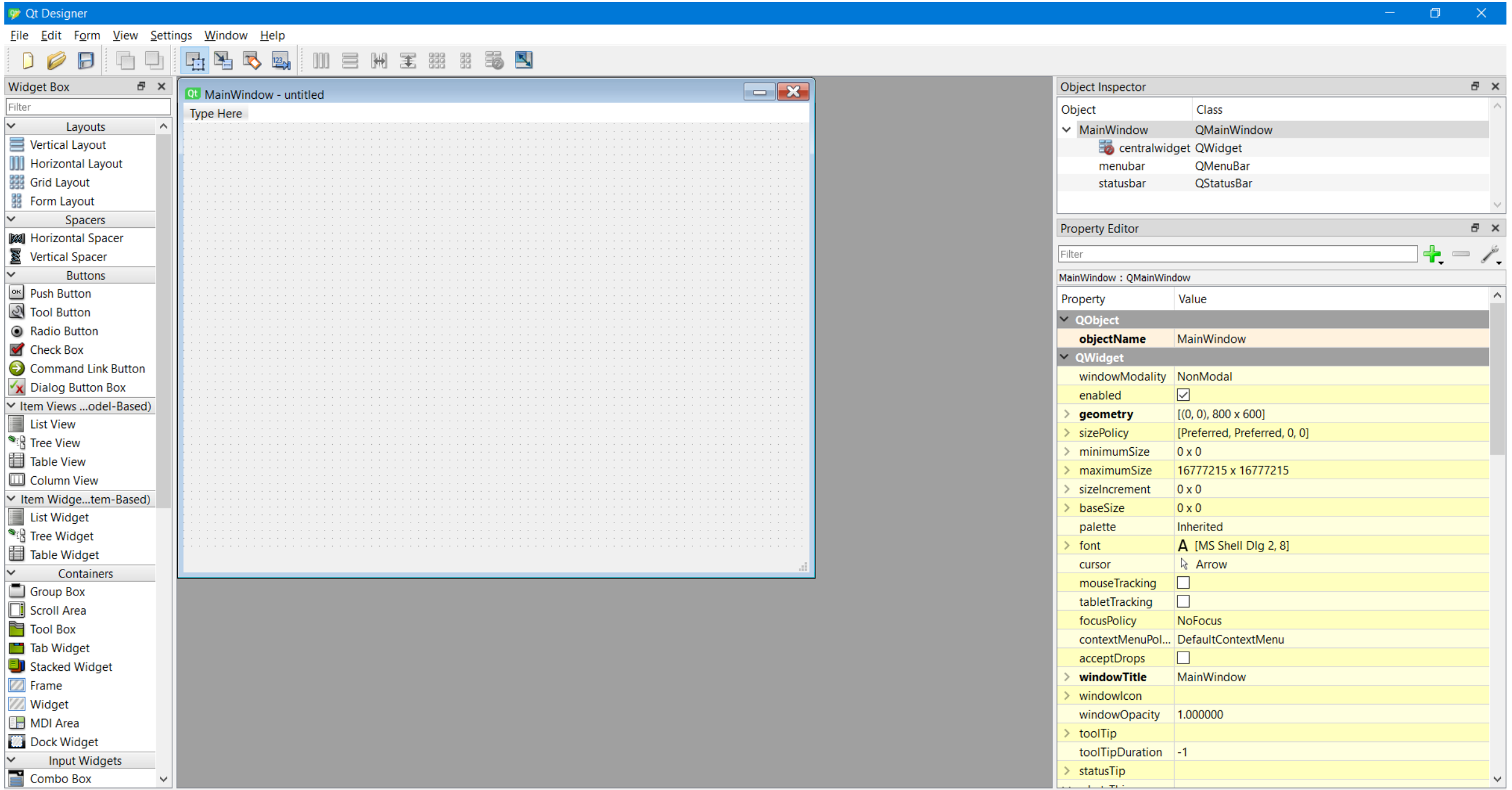
MySQL

PostgreSQL

SQLite

…

Python uchun Qt Designer dasturi quyidagicha




Этот компьютер
STDU Viewer
Google Chrome
Foxit Reader
Word
KNIME Analyti...
Excel
HeidiSQL
PowerPoint
DAEMON Tools Lite
Telegram
WinSCP
Visual Studio Code
AnyDesk
PyCharm Communi...
KNIME_pro...
1. TATU
2. TATU DASTURLAR
3. PROGRAMMS
4. PROJECTS
5. DOCUMENTS
Корзина

Interfeysning kod qismi:

universitet.ui fayli classidan meros olish va ma’lumotlar bazasiga ulanish funksiyasi

```
from PyQt5.QtWidgets import QApplication, QWidget, QMainWindow, QTableWidgetItem
from PyQt5.uic import loadUiType
import sys
import mysql.connector

FORM_CLASS, _ = loadUiType("C:/Users/hp/Desktop/GUI_dasturlar/Frame/universitet.ui")

class Main(QMainWindow, FORM_CLASS):
    def __init__(self, parent=None):
        super(Main, self).__init__(parent)
        QMainWindow.__init__(self)
        self.setupUi(self)
        self.TugmalarniBoshqarish()

    def TugmalarniBoshqarish(self):
        self.Refresh.clicked.connect(self.MALUMOTLARNI_OLISH)
        self.Search.clicked.connect(self.Qidiruv)
```

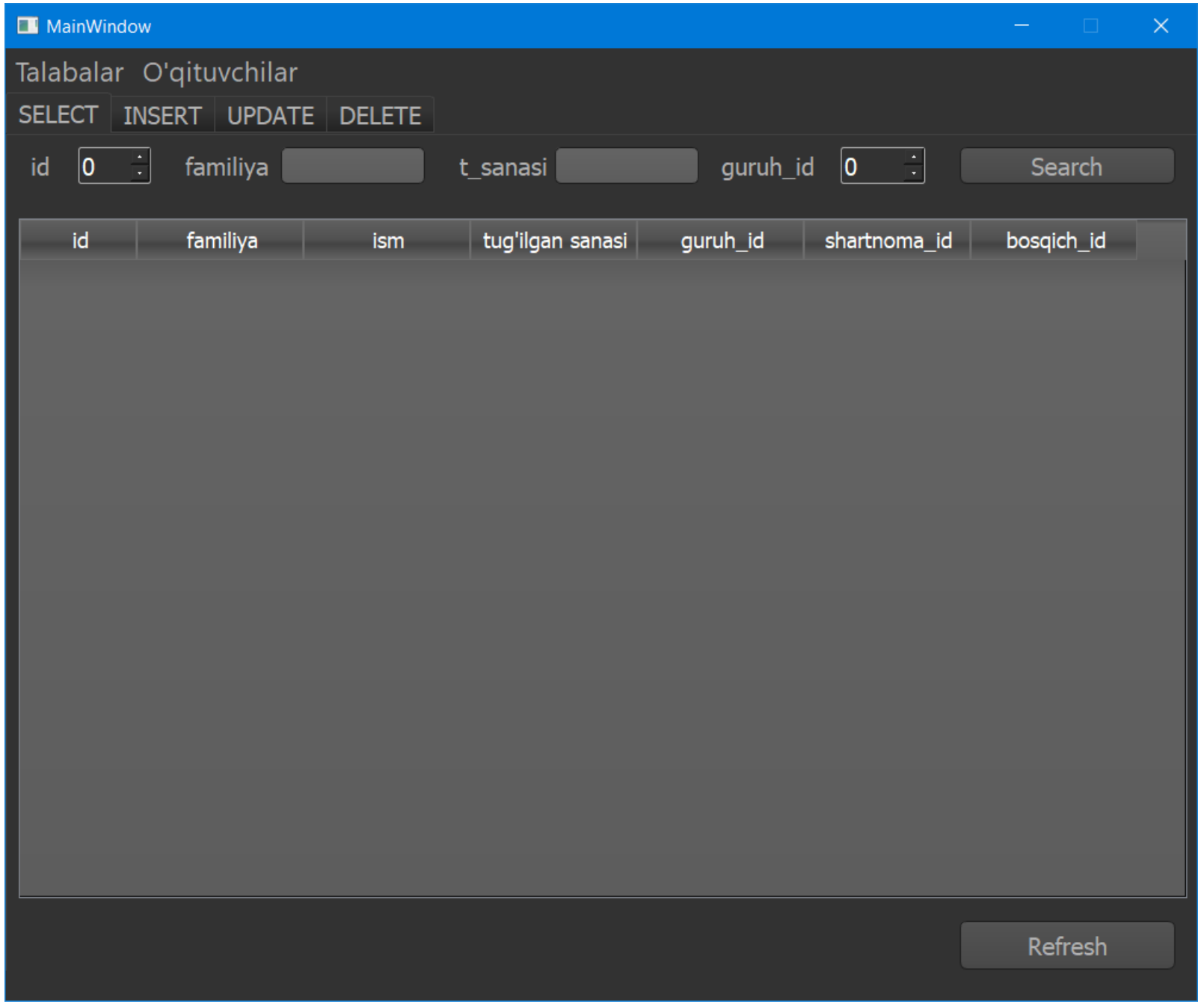
```
    def Ulanish(self):
        try:
            return mysql.connector.connect(
                host="localhost",
                user="root",
                password="root",
                database="institut"
            )
        except mysql.connector.Error as err:
            print("MySQL ga ulanishda xatolik:", err)
            return None
```

Search tugmasi vazifasini yozish:

```
def Qidiruv(self):
    db = self.Ulanish()
    if db:
        cursor = db.cursor()
        n = int(self.id.text())
        f = str(self.familiya.text())
        t = str(self.t_sanasi.text())
        g = int(self.guruh_id.text())

    if n != 0:
        command = f"""SELECT * FROM talabalar
    WHERE id = {n}"""
        cursor.execute(command)
        rows = cursor.fetchall()

    elif f != "":
        command = f"""SELECT * FROM talabalar
    WHERE familiya LIKE '%{f}%'"""
        cursor.execute(command)
        rows = cursor.fetchall()

    elif t != "":
        command = f"""SELECT * FROM talabalar
    WHERE t_sanasi LIKE '%{t}%'"""
        cursor.execute(command)
        rows = cursor.fetchall()

    elif g != 0:
        command = f"SELECT * FROM talabalar WHERE guruh_id = {g}"
        cursor.execute(command)
        rows = cursor.fetchall()

    else:
        command = f"SELECT * FROM talabalar"
        cursor.execute(command)
        rows = cursor.fetchall()

    self.talaba_table.setRowCount(0)
    for row_number, row_data in enumerate(rows):
        self.talaba_table.insertRow(row_number)
        for column_number, data in enumerate(row_data):
            item = QTableWidgetItem(str(data))
            self.talaba_table.setItem(row_number, column_number, item)
```

Refresh tugmasi vazifasini yozish:

```
    def MALUMOTLARNI_OLISH(self):
        db = self.Ulanish()
        if db:
            cursor = db.cursor()
            command = "SELECT * FROM talabalar"
            cursor.execute(command)
            rows = cursor.fetchall()
            self.talaba_table.setRowCount(0)

    for row_number, row_data in enumerate(rows):
        self.talaba_table.insertRow(row_number)
        for column_number, data in enumerate(row_data):
            item = QTableWidgetItem(str(data))
            self.talaba_table.setItem(row_number, column_number, item)

if __name__ == "__main__":
    app = QApplication(sys.argv)
    oyna = Main()
    oyna.show()
    sys.exit(app.exec_())
```


MainWindow
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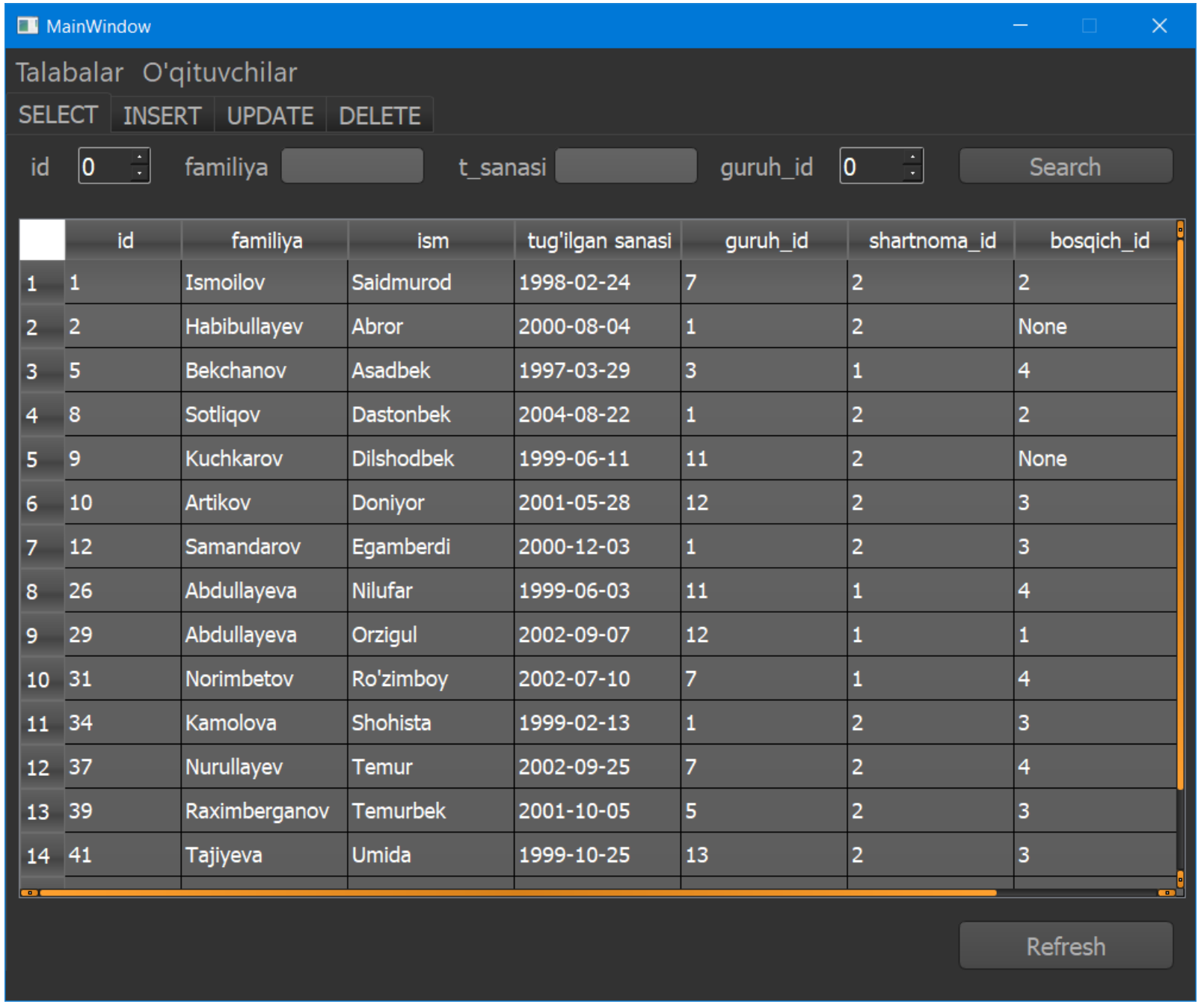
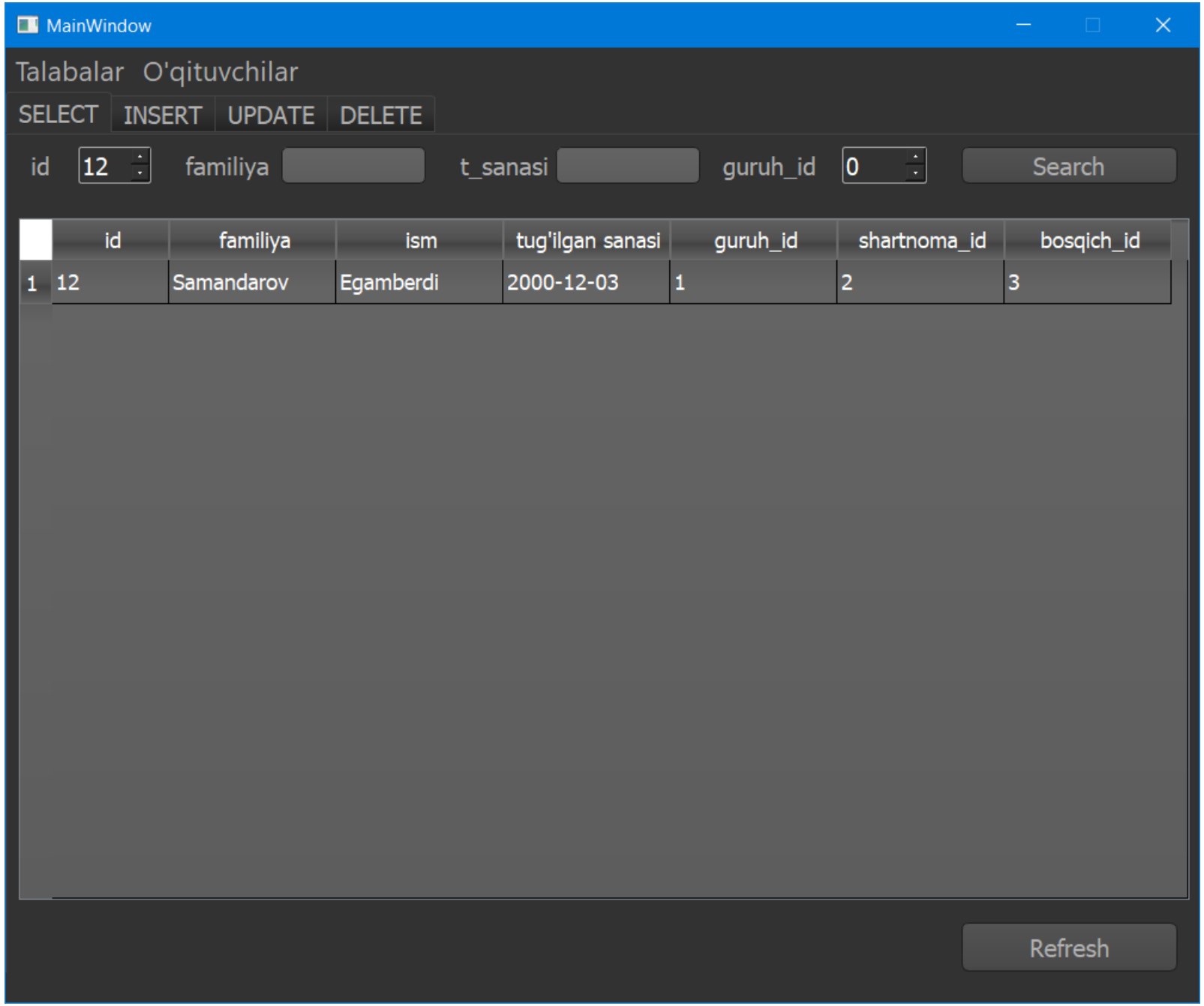
shartnoma_id
bosqich_id
Refresh



	id	familiya	ism	tug'ilgan sanasi	guruh_id	shartnoma_id	bosqich_id
1	1	Ismoilov	Saidmurod	1998-02-24	7	2	2
2	2	Habibullayev	Abror	2000-08-04	1	2	None
3	5	Bekchanov	Asadbek	1997-03-29	3	1	4
4	8	Sotliqov	Dastonbek	2004-08-22	1	2	2
5	9	Kuchkarov	Dilshodbek	1999-06-11	11	2	None
6	10	Artikov	Doniyor	2001-05-28	12	2	3
7	12	Samandarov	Egamberdi	2000-12-03	1	2	3
8	26	Abdullayeva	Nilufar	1999-06-03	11	1	4
9	29	Abdullayeva	Orzigul	2002-09-07	12	1	1
10	31	Norimbetov	Ro'zimboy	2002-07-10	7	1	4
11	34	Kamolova	Shohista	1999-02-13	1	2	3
12	37	Nurullayev	Temur	2002-09-25	7	2	4
13	39	Raximberganov	Temurbek	2001-10-05	5	2	3
14	41	Tajiyeva	Umida	1999-10-25	13	2	3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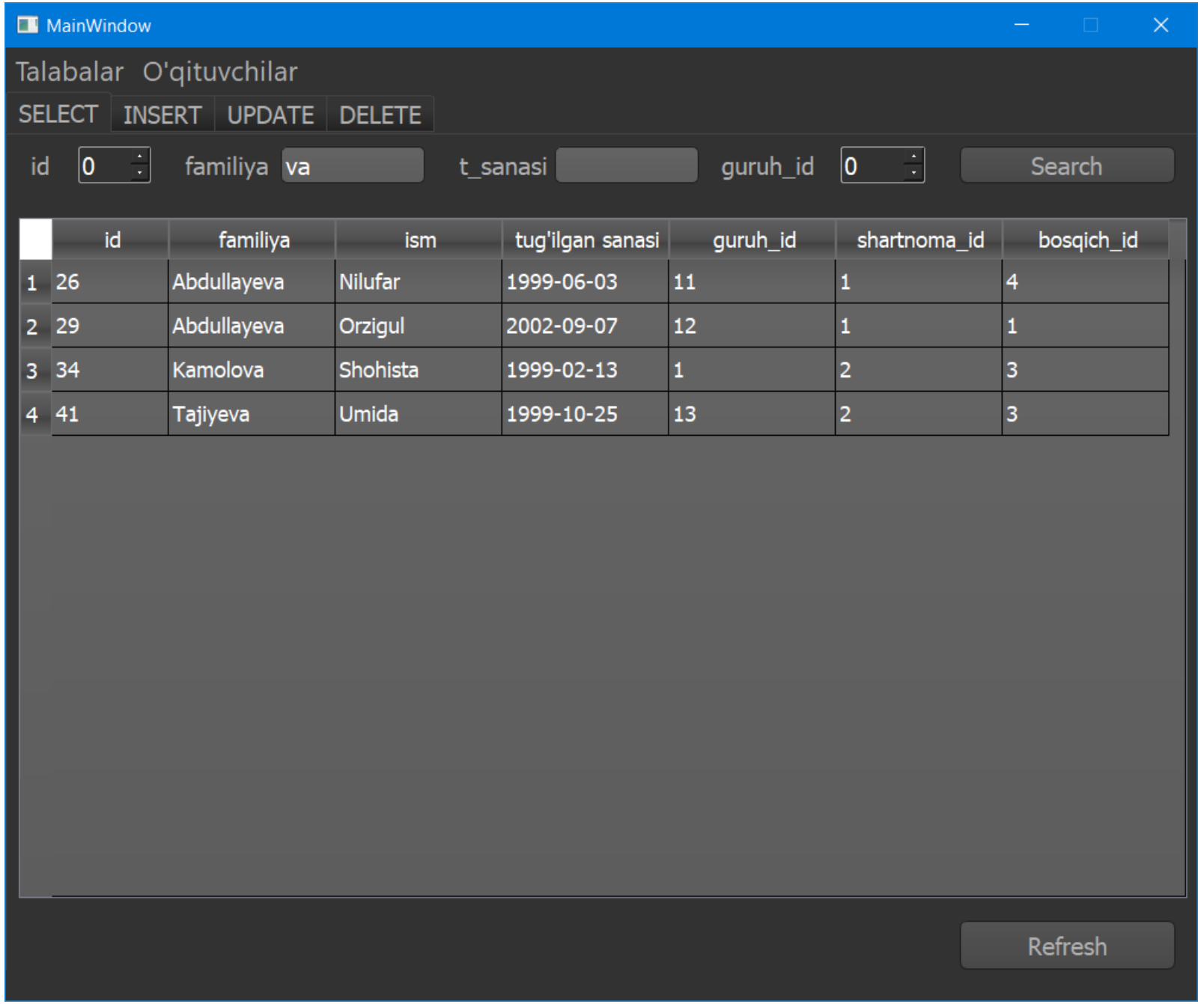
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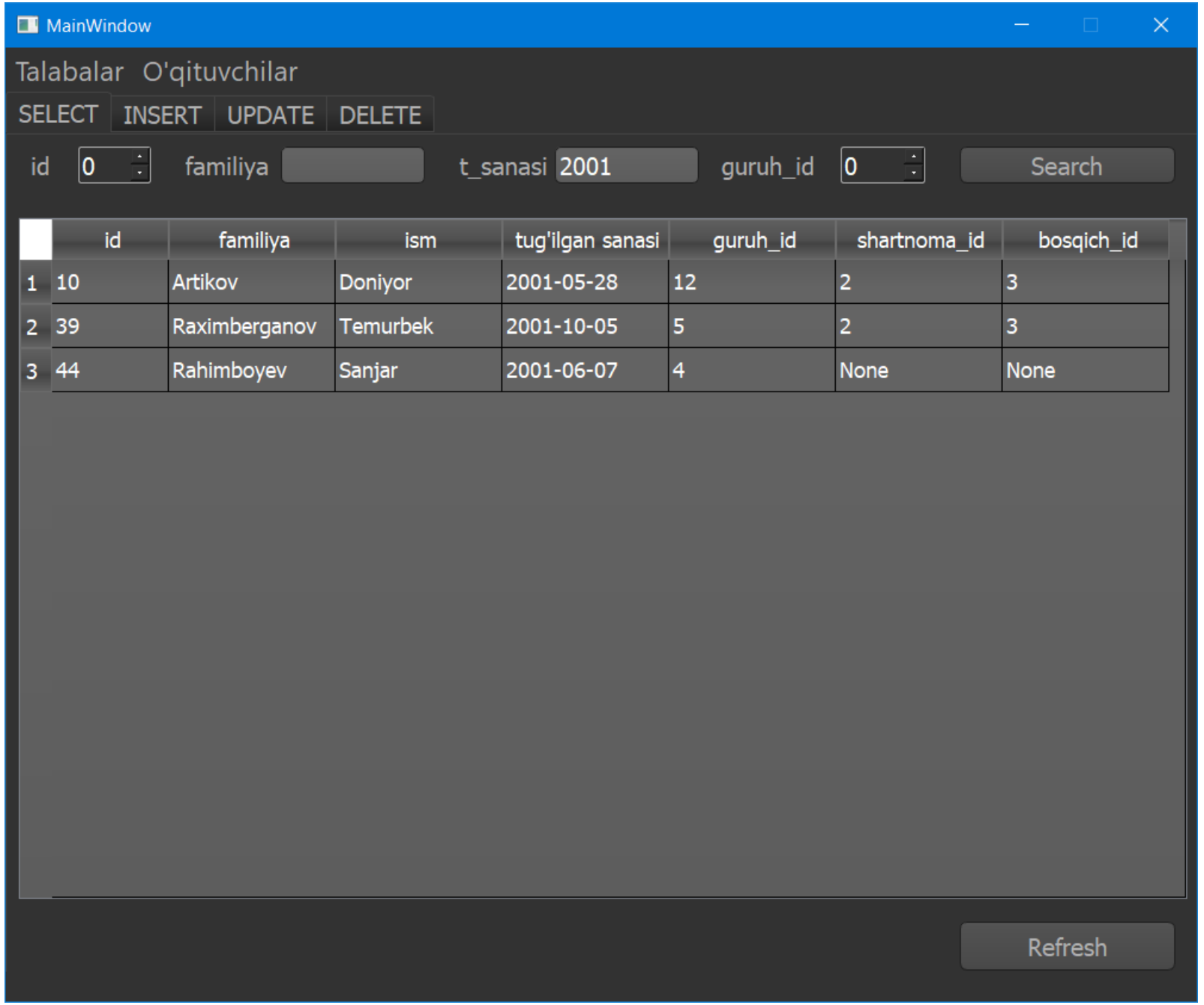
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44
Rahimboyev
Sanjar
2001-06-07
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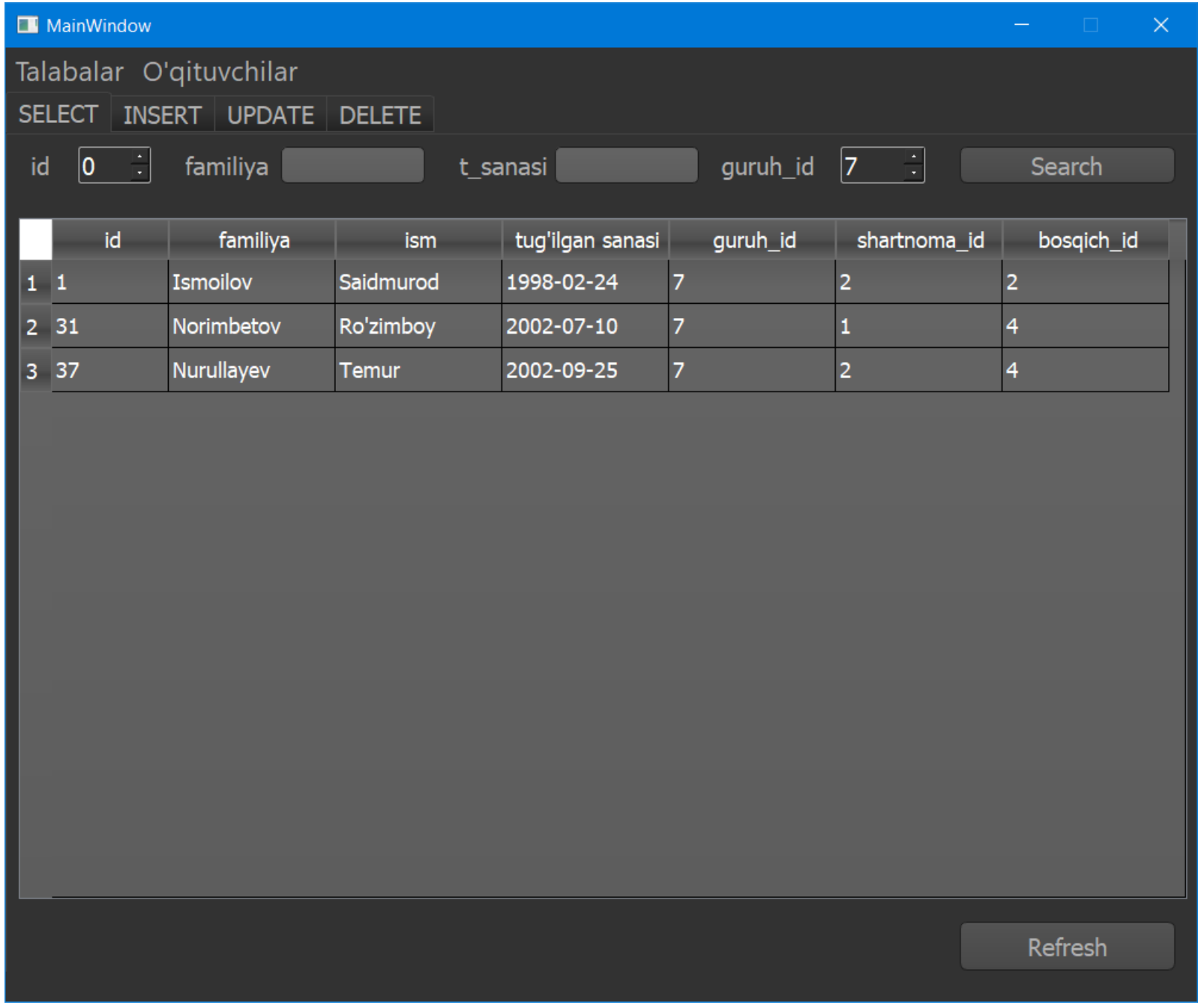
None
None
Refresh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SAVOLLAR?