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RAQAMLI TEXNOLOGIYALAR VAZIRLIGI**

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**DASTURLASH II FANIDAN**

# **3-AMALIY TOPSHIRIQ**

Guruh:23.07 guruh talabasi

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## 15-masala. Visual C++ Calculator

Dastur kodi:

```
#include <QApplication>
#include <QGridLayout>
#include <QLineEdit>
#include <QPushButton>
#include <QWidget>
```

```
class Calculator : public QWidget {
    Q_OBJECT
```

```
public:
```

```
    Calculator(QWidget *parent = nullptr);
```

```
private slots:
```

```
    void onDigitClicked();
    void onOperatorClicked();
    void onClear();
    void onEqual();
```

```
private:
```

```
    QLineEdit *display;
    QString pendingOperator;
    double pendingOperand = 0;
    bool waitingForOperand = true;
```

```
};
```

```
Calculator::Calculator(QWidget *parent)
    : QWidget(parent) {
    display = new QLineEdit("0");
    display->setReadOnly(true);
    display->setAlignment(Qt::AlignRight);
    display->setMaxLength(15);
```

```

QGridLayout *mainLayout = new QGridLayout(this);
mainLayout->addWidget(display, 0, 0, 1, 4);

QStringList buttons = {
    "7", "8", "9", "*",
    "4", "5", "6", "-",
    "1", "2", "3", "/",
    "0", "00", ".", "+",
    "C", "="
};

int pos = 0;
for (int row = 1; row <= 5; ++row) {
    for (int col = 0; col < 4; ++col) {
        if (pos >= buttons.size())
            break;

        QString text = buttons[pos++];
        QPushButton *button = new
QPushButton(text);
        mainLayout->addWidget(button, row, col);

        if (text == "C") {
            connect(button,
&QPushButton::clicked, this, &Calculator::onClear);
        } else if (text == "=") {
            connect(button,
&QPushButton::clicked, this, &Calculator::onEqual);
        } else if ("+-*/".contains(text)) {
            connect(button,
&QPushButton::clicked, this,
&Calculator::onOperatorClicked);
        } else {

```

```

        connect(button,
&QPushButton::clicked, this,
&Calculator::onDigitClicked);
    }
}

void Calculator::onDigitClicked() {
    QPushButton *clickedButton =
qobject_cast<QPushButton *>(sender());
    QString clicked = clickedButton->text();

    if (display->text() == "0" || waitingForOperand)
    {
        display->clear();
        waitingForOperand = false;
    }

    display->setText(display->text() + clicked);
}

void Calculator::onOperatorClicked() {
    QPushButton *clickedButton =
qobject_cast<QPushButton *>(sender());
    QString clickedOp = clickedButton->text();

    pendingOperand = display->text().toDouble();
    pendingOperator = clickedOp;
    waitingForOperand = true;
}

void Calculator::onClear() {
    display->setText("0");
}

```

```

        pendingOperator.clear();
        pendingOperand = 0;
        waitingForOperand = true;
    }

void Calculator::onEqual() {
    double operand2 = display->text().toDouble();
    double result = 0;

    if (pendingOperator == "+")
        result = pendingOperand + operand2;
    else if (pendingOperator == "-")
        result = pendingOperand - operand2;
    else if (pendingOperator == "*")
        result = pendingOperand * operand2;
    else if (pendingOperator == "/" ) {
        if (operand2 == 0) {
            display->setText("Error");
            return;
        }
        result = pendingOperand / operand2;
    }

    display->setText(QString::number(result));
    waitingForOperand = true;
}

#include "main.moc"

int main(int argc, char *argv[]) {
    QApplication app(argc, argv);
    Calculator calculator;
    calculator.setWindowTitle("Calculator");
    calculator.resize(300, 400);

```

```
calculator.show();  
return app.exec();  
}
```

Dastur natijasi:

