MainWindow::on\_planVacationBtn\_clicked()

O(1)

MainWindow::on\_modifySouvenirListBtn\_clicked()

O(n)

MainWindow::on\_logInBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_clicked()

O(1)

MainWindow::on\_pushButton\_2\_clicked()

O(1)

MainWindow::on\_pushButton\_3\_clicked()

O(1)

MainWindow::on\_pushButton\_4\_clicked()

O(1)

MainWindow::on\_quitBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_10\_clicked()

O(1)

MainWindow::on\_shoppingCartBtn\_clicked()

O(1)

MainWindow::on\_viewStadiumBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_12\_clicked()

O(1)

MainWindow::setPvec(int set)

O(1)

MainWindow::setSvec(QString set)

O(1)

MainWindow::on\_modifyStadiumListBtn\_clicked()

O(1)

MainWindow::on\_addStadiumBtn\_clicked()

N = O(n)

MainWindow::on\_addStadiumButton\_clicked()

N = O(n)

MainWindow::on\_pushButton\_8\_clicked()

O(1)

MainWindow::on\_pushButton\_9\_clicked()

O(1)

MainWindow::on\_customizeShortestBtn\_clicked()

N = O(n)

MainWindow::on\_pushButton\_5\_clicked()

O(1)

MainWindow::on\_pushButton\_6\_clicked()

O(1)

MainWindow::on\_pushButton\_7\_clicked()

O(1)

Graph::insertEdge(int originNumber, int destinationNumber, double weight)

O(1)

Graph::insertEdge(QString originName, QString destinationName, double weight)

N = O(n)

void Graph::insertVertex(QString vName)

N= O(n)

void Graph::printMatrix()

N + N = O(2n) = O(n)

QString Graph::Dikstras(int startVertex)

N^2 + N + N^3 + N + N = O(n3+n2+2n) = O(n3)

Graph::searchVertex(QString vName)

N = O(n)

Graph::minKey(vector<int> key, vector<bool> mstSet, int size)

N = O(n)

Graph:: printMST(vector<int> &parent, int n)

N = O(n)

Graph:: calcMST()

N + N2 + N = O(n2+2n) = O(n2)

Graph::customizeDikstras(int startVertex, vector<int> verticesList)

N2 + N + N3 + N2 = O(n3+2n2+n) = O(n3)

MainWindow::initializeGraph()

N + N = O(2n) = O(n)

MainWindow::loadData()

N + N = O(2n) = O(n)

MainWindow::on\_planVacationBtn\_clicked()

O(1)

MainWindow::on\_modifySouvenirListBtn\_clicked()

O(1)

MainWindow::on\_logInBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_clicked()

O(1)

MainWindow::on\_pushButton\_2\_clicked()

O(1)

MainWindow::on\_pushButton\_3\_clicked()

O(1)

MainWindow::on\_pushButton\_4\_clicked()

O(1)

MainWindow::on\_quitBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_10\_clicked()

O(1)

MainWindow::on\_shoppingCartBtn\_clicked()

O(1)

MainWindow::on\_viewStadiumBtn\_clicked()

O(1)

MainWindow::on\_pushButton\_12\_clicked()

O(1)

MainWindow::setPvec(int set)

O(1)

MainWindow::setSvec(QString set)

O(1)

MainWindow::on\_modifyStadiumBtn\_clicked()

N = O(n)

MainWindow::on\_backButton\_clicked()

O(1)

MainWindow::on\_modifyButtton\_clicked()

O(1)

MainWindow::on\_StadiumComboBox\_currentIndexChanged(const QString &arg1)

O(1)

MainWindow::on\_MSTBtn\_clicked()

N + N = O(2n) = O(n)

MainWindow::on\_pushButton\_16\_clicked()

O(1)

shoppingCart::fillAllLists()

N + M = O(n + m)

shoppingCart::setList(const QHash<QString, Stadium> &list)

N + M = O(n + m)

shoppingCart::on\_pushButton\_checkout\_clicked()

O(1)

shoppingCart::on\_pushButton\_updateCart\_clicked()

N2 = O(n2)

MainWindow::on\_shortestAngelBtn\_clicked()

N + N^2 + N + N^3 + N + N = O(n3+n2+3n) = O(n3)

MainWindow::on\_backBtn\_clicked()

O(1)

MainWindow::on\_backBtn\_2\_clicked()

O(1)

Souvenir::setName(QString set)

O(1)

Souvenir::setPrice(double set)

O(1)

Souvenir::getName()

O(1)

Souvenir::getPrice()

O(1)

Souvenir::getPriceStr()

O(1)

getSouvenirInfo()

O(1)

Stadium::setStadiumName(QString set)

O(1)

Stadium::setTeamName(QString set)

O(1)

Stadium::setAddress(QString set)

O(1)

Stadium::setPhoneNumber(QString set)

O(1)

Stadium::setLeague(QChar set)

O(1)

Stadium::setGrassField(bool set)

O(1)

Stadium::setDateOpened(QDate set)

O(1)

Stadium::getNumSouvenir()

O(1)

Stadium::setCapacity(QString set)

O(1)

Stadium::getStadiumName()

O(1)

Stadium::getTeamName()

O(1)

Stadium::getAddress()

O(1)

Stadium::getPhoneNumber()

O(1)

Stadium::getLeague()

O(1)

Stadium::getGrassField()

O(1)

Stadium::getDateOpened()

O(1)

Stadium::getCapacity()

O(1)

Stadium::displayStadium()

O(1)

Stadium::getSouvenirList()

O(1)

MainWindow::on\_viewMajorLeagueBtn\_clicked()

N + N = O(2n) = O(n)

MainWindow::on\_pushButton\_11\_clicked()

O(1)

MainWindow::on\_viewAmericanLeagueBtn\_clicked()

N + N + N = O(3n) = O(n)

MainWindow::on\_pushButton\_13\_clicked()

O(1)

MainWindow::on\_viewGrassSurfaceBtn\_clicked()

N + N + N = O(3n) = O(n)

MainWindow::on\_pushButton\_15\_clicked()

O(1)

MainWindow::on\_viewNationalLeagueBtn\_clicked()

N + N + N = O(3n) = O(n)

MainWindow::on\_pushButton\_14\_clicked()

O(1)

In brief, for this project, the worst Big O that we have is O(n^3) and the best was O(1) which is the functions for the buttons that is used to move between pages in the stackWidget.

The data structure that we use in this project is QHash for Stadium List and Souvenir List.

We also use a vector for vertices list and a 2D vector for the adjacency matrix in the graph.