PROGRAM CORONA

BEGIN

FUNCTION menu()

PRINT “Welcome”

PRINT “1. Register new patient”

PRINT “2. Test patients”

PRINT “3. Modify patient status”

PRINT “4. Statistics”

PRINT “5. Search”

PRINT “6. Exit”

PRINT “Choose option : “

READ option

IF option == “1”

registerPatient()

ELIF option == “2”

testPatient()

ELIF option == “3”

modifyPatient()

ELIF option == “4”

getStatPatient()

ELIF option == “5”

searchPatient()

ELIF option == “6”

menu()

ELSE

PRINT “Invalid option, please try again”

menu()

FUNCTION registerPatient()

PRINT "Enter patient name: "

READ patientName

PRINT "Enter patient ID: "

READ patientID

PRINT "Enter patient email: "

READ patientMail

PRINT "== Groups List =="

PRINT "ATO: Asymptomatic Travelled Overseas"

PRINT "ACC: Asymptomatic Close Contact"

PRINT "AEO: Asymptomatic Event Outbreak"

PRINT "SID: Symptomatic Individual"

PRINT "AHS: Asymptomatic Hospital Staff"

PRINT "Enter patient group: "

READ patientGroup

PRINT "Any past medical conditions? (A for yes, B for no): "

READ patientCondition

PRINT "Enter patient zone (A, B, C, or D): "

READ patientZone

patientData = patientName+";"+patientID+";"+patientMail+";"+patientGroup+";"+patientZone+";"+"N"+";"+"N"+";"+"N"+";"+"N"+";"+"0"+";"+"N"+";"+patientCondition+";"+"X"

OPEN patient.txt

APPEND patientData

exitMenu()

FUNCTION testPatient()

OPEN patient.txt AS my\_file

content = READLINES my\_file

PRINT “Enter patient ID: “

READ patientID

counter = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[1] == patientID

PRINT “Testing patient “ + newContent[0]

PRINT “Enter test result: “

PRINT “1. Positive”

PRINT “2. Negative”

PRINT “Choose option: “

patientTest, testSolution, testResult, positive = testLaboratory(newContent[3], newContent[5], testResult)

IF testSolution == “QHNF” AND newContent[11] == “1”

newSolution = “quarantine in ICU, (No follow-up test required)”

ELIF testSolution == “QHNF” AND newContent[11] == “2”

newSolution = “quarantine in normal ward, (No follow-up test required)”

ELIF testSolution == “HQNF”

newSolution = “home quarantine, (No follow-up test required)”

ELIF testSolution == “QDFR”

newSolution = “quarantine in designated centres, (Follow up test required)”

ELIF testSolution == “HQFR”

newSolution = “home quarantine, (Follow up test required)”

ELIF testSolution == “RU”

newSolution = “go home and reunite with family, (No follow-up test required)”

ELIF testSolution == “CW”

newSolution = “continue working, (No follow-up test required)”

PRINT “Patient should do “ + newSolution

IF patientTest == “N”

IF testResult == “1”

newContent[5] = “F”

newContent[6] = “1”

PRINT “Enter case ID: “

READ newContent[9]

newContent[10] = “A”

ELIF testResult == “0”

newContent[5] = “t1”

newContent[6] = “0”

ELSE

PRINT “Incorrect test result, returning to main menu”

menu()

ELIF patientTest == “t1”

IF testResult == “1”

newContent[5] = “F”

newContent[7] = “1”

PRINT “Enter case ID:”

READ newContent[9]

newContent[10] = “A”

ELIF testResult == “0”

newContent[5] = “t2”

newContent[7] = “0”

ELSE

PRINT “Incorrect test result, returning to main menu”

menu()

ELIF patientTest == “t2”

IF testResult == “1”

newContent[5] = “F”

newContent[8] = “1”

PRINT “Enter case ID:”

READ newContent[9]

newContent[10] = “A”

ELIF testResult == “0”

newContent[5] = “t2”

newContent[8] = “0”

ELSE

PRINT “Incorrect test result, returning to main menu”

menu()

newPatientData = patientBuilder(newContent)

newIndex = int(newContent[1]) – 1

content[newIndex] = newPatientData

OPEN patient.txt AS f METHOD w

counterIn = 0

FOR items IN content

f WRITELINES (content[counterIn])

counterIn = counterIn + 1

CLOSE f

BREAK

counter = counter + 1

CLOSE my\_file

exitMenu()

FUNCTION modifyPatient()

PRINT “Available options”

PRINT “1. Set all non-active positive patients’ status to active”

PRINT “2. Modify patient status”

PRINT “3. Return to main menu”

PRINT “Choose option: “

READ option

IF option == “1”

modifyFeatureA()

ELIF option == “2”

modifyFeatureB()

ELIF option == “3”

menu()

ELSE

PRINT “Wrong option, please choose from the”

modifyPatient()

FUNCTION getStatPatient()

OPEN patient.txt AS my\_file METHOD r

content = READLINES my\_file

counter = 0

totalTest = 0

patientTested = 0

patientRecovered = 0

patientPositiveGroupATO = 0

patientPositiveGroupACC = 0

patientPositiveGroupAEO = 0

patientPositiveGroupSID = 0

patientPositiveGroupAHS = 0

ActiveCaseZoneA = 0

ActiveCaseZoneB = 0

ActiveCaseZoneC = 0

ActiveCaseZoneD = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[5] != “N”

patientTested = patientTested + 1

IF newContent[6] != “N”

totalTest = totalTest + 1

IF newContent[7] != “N”

totalTest = totalTest + 1

IF newContent[8] != “N”

totalTest = totalTest + 1

IF newContent[10] == “R”

patientRecovered = patientRecovered + 1

IF newContent[3] == “ATO” AND newContent[6] == “1”

patientPositiveGroupATO = patientPositiveGroupATO + 1

IF newContent[3] == “ATO” AND newContent[7] == “1”

patientPositiveGroupATO = patientPositiveGroupATO + 1

IF newContent[3] == “ATO” AND newContent[8] == “1”

patientPositiveGroupATO = patientPositiveGroupATO + 1

IF newContent[3] == “ACC” AND newContent[6] == “1”

patientPositiveGroupACC = patientPositiveGroupACC + 1

IF newContent[3] == “ACC” AND newContent[7] == “1”

patientPositiveGroupACC = patientPositiveGroupACC + 1

IF newContent[3] == “ACC” AND newContent[8] == “1”

patientPositiveGroupACC = patientPositiveGroupACC + 1

IF newContent[3] == “AEO” AND newContent[6] == “1”

patientPositiveGroupAEO = patientPositiveGroupAEO + 1

IF newContent[3] == “AEO” AND newContent[7] == “1”

patientPositiveGroupAEO = patientPositiveGroupAEO + 1

IF newContent[3] == “AEO” AND newContent[8] == “1”

patientPositiveGroupAEO = patientPositiveGroupAEO + 1

IF newContent[3] == “SID” AND newContent[6] == “1”

patientPositiveGroupSID = patientPositiveGroupSID + 1

IF newContent[3] == “SID” AND newContent[7] == “1”

patientPositiveGroupSID = patientPositiveGroupSID + 1

IF newContent[3] == “SID” AND newContent[8] == “1”

patientPositiveGroupSID = patientPositiveGroupSID + 1

IF newContent[3] == “AHS” AND newContent[6] == “1”

patientPositiveGroupAHS = patientPositiveGroupAHS + 1

IF newContent[3] == “AHS” AND newContent[7] == “1”

patientPositiveGroupAHS = patientPositiveGroupAHS + 1

IF newContent[3] == “AHS” AND newContent[8] == “1”

patientPositiveGroupAHS = patientPositiveGroupAHS + 1

IF newContent[4] == “A” AND newContent[10] == “A”

ActiveCaseZoneA = ActiveCaseZoneA + 1

IF newContent[4] == “B” AND newContent[10] == “A”

ActiveCaseZoneB = ActiveCaseZoneB + 1

IF newContent[4] == “C” AND newContent[10] == “A”

ActiveCaseZoneC = ActiveCaseZoneC + 1

IF newContent[4] == “D” AND newContent[10] == “A”

ActiveCaseZoneD = ActiveCaseZoneD + 1

counter = counter + 1

totalTest = str(totalTest)

patientTested = str(patientTested)

patientRecovered = str(patientRecovered)

patientPositiveGroupATO = str(patientPositiveGroupATO)

patientPositiveGroupACC = str(patientPositiveGroupACC)

patientPositiveGroupAEO = str(patientPositiveGroupAEO)

patientPositiveGroupSID = str(patientPositiveGroupSID)

patientPositiveGroupAHS = str(patientPositiveGroupAHS)

ActiveCaseZoneA = str(ActiveCaseZoneA)

ActiveCaseZoneB = str(ActiveCaseZoneB)

ActiveCaseZoneC = str(ActiveCaseZoneC)

ActiveCaseZoneD = str(ActiveCaseZoneD)

PRINT “”

PRINT “Total tests: “ + totalTest

PRINT “”

PRINT “Tested patients: “ + patientTested

PRINT “”

PRINT “Patients recovered: “ + patientRecovered

PRINT “”

PRINT “Asymptomatic Travelled Overseas tested positive: “ + patientPositiveGroupATO

PRINT “Asymptomatic Close Contact tested positive: “ + patientPositiveGroupACC

PRINT “Asymptomatic Event Outbreak tested positive: “ + patientPositiveGroupAEO

PRINT “Symptomatic Individuals tested positive: “ + patientPositiveGroupSID

PRINT “Asymptomatic Hospital Staffs tested positive: “ + patientPositiveGroupAHS

PRINT “”

PRINT “Active cases in Zone A: “ + ActiveCaseZoneA

PRINT “Active cases in Zone B: “ + ActiveCaseZoneB

PRINT “Active cases in Zone C: “ + ActiveCaseZoneC

PRINT “Active cases in Zone D: “ + ActiveCaseZoneD

PRINT “”

CLOSE my\_file

exitMenu()

FUNCTION searchPatient()

PRINT “Available options”

PRINT “1. Patient records”

PRINT “2. Case status”

PRINT “3. Deceased patient records”

PRINT “4. Return to main menu”

PRINT “Choose option: “

READ option

IF option == “1”

searchFeatureA()

ELIF option == “2”

searchFeatureB()

ELIF option == “3”

searchFeatureC()

ELIF option == “4”

menu()

ELSE

PRINT “Wrong option, please choose from the”

modifyPatient()

FUNCTION exitMenu()

PRINT “Return to menu?”

PRINT “1. Return to menu”

PRINT “2. Exit program”

PRINT “Choose option: “

READ exitOption

IF exitOption == “1”

menu()

ELIF exitOption == “2”

PRINT “Goodbye and have a nice day.”

ELSE

PRINT “You entered the wrong option but goodbye and have a nice day ;)”

FUNCTION patientBuilder(patient)

patientData = patient[0] +";"+ patient[1] +";"+ patient[2] +";"+ patient[3] +";"+ patient[4]+";"+patient[5]+";"+patient[6]+";"+patient[7]+";"+patient[8]+";"+patient[9]+";"+patient[10]+";"+patient[11]+";"+"X\n"

RETURN patientData

FUNCTION testLaboratory(patientGroup, patientTest, testResult)

IF testResult == “2”

testResult = “0”

IF patientTest == “N”

IF testResult == “1”

IF patientGroup == “ATO”

testSolution = “QHNF”

ELIF patientGroup == “ACC”

testSolution = “QHNF”

ELIF patientGroup == “AEO”

testSolution = “QHNF”

ELIF patientGroup == “SID”

testSolution = “QHNF”

ELIF patientGroup == “AHS”

testSolution = “HQNF”

ELSE

PRINT “Invalid Group”

positive = 1

ELIF testResult == “0”

IF patientGroup == “ATO”

testSolution = “QDFR”

ELIF patientGroup == “ACC”

testSolution = “QDFR”

ELIF patientGroup == “AEO”

testSolution = “QDFR”

ELIF patientGroup == “SID”

testSolution = “HQFR”

ELIF patientGroup == “AHS”

testSolution = “CWFR”

ELSE

PRINT “Invalid Group”

positive = 0

ELIF patientTest == “t1”

IF testResult == “1”

IF patientGroup == “ATO”

testSolution = “QHNF”

ELIF patientGroup == “ACC”

testSolution = “QHNF”

ELIF patientGroup == “AEO”

testSolution = “QHNF”

ELIF patientGroup == “SID”

testSolution = “QHNF”

ELIF patientGroup == “AHS”

testSolution = “HQNF”

ELSE

PRINT “Invalid Group”

positive = 1

ELIF testResult == “0”

IF patientGroup == “ATO”

testSolution = “QDFR”

ELIF patientGroup == “ACC”

testSolution = “QDFR”

ELIF patientGroup == “AEO”

testSolution = “QDFR”

ELIF patientGroup == “SID”

testSolution = “HQFR”

ELIF patientGroup == “AHS”

testSolution = “CWFR”

ELSE

PRINT “Invalid Group”

positive = 0

ELIF patientTest == “t2”

IF testResult == “1”

IF patientGroup == “ATO”

testSolution = “QHNF”

ELIF patientGroup == “ACC”

testSolution = “QHNF”

ELIF patientGroup == “AEO”

testSolution = “QHNF”

ELIF patientGroup == “SID”

testSolution = “QHNF”

ELIF patientGroup == “AHS”

testSolution = “HQNF”

ELSE

PRINT “Invalid Group”

positive = 1

ELIF testResult == “0”

IF patientGroup == “ATO”

testSolution = “RU”

ELIF patientGroup == “ACC”

testSolution = “RU”

ELIF patientGroup == “AEO”

testSolution = “RU”

ELIF patientGroup == “SID”

testSolution = “RU”

ELIF patientGroup == “AHS”

testSolution = “CW”

ELSE

PRINT “Invalid Group”

positive = 0

ELSE

PRINT “No tests required for this patient, returning to main menu”

testSolution = 0

positive = 0

menu()

RETURN patientTest, testSolution, testResult, positive

FUNCTION modifyFeatureA()

OPEN patient.txt AS my\_file METHOD r

CONTENT = READLINES my\_file

counter = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[6] == “1”

IF newContent[10] == “N”

newContent[10] = “A”

IF newContent[7] == “1”

IF newContent[10] == “N”

newContent[10] = “A”

IF newContent[8] == “1”

IF newContent[10] == “N”

newContent[10] = “A”

newPatientData = patientBuilder(newContent)

newIndex = int(newContent[1]) – 1

content[newIndex] = newPatientData

OPEN patient.txt AS f METHOD w

counterIn = 0

FOR items IN content

f WRITELINES content[counterIn]

counterIn = counterIn + 1

CLOSE f

counter = counter + 1

PRINT “All active patients’ status has been changed to Active!”

exitMenu()

FUNCTION modifyFeatureB

OPEN patient.txt AS my\_file METHOD r

content = READLINES my\_file

PRINT “Enter patient ID: “

READ patientID

counter = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[1] == patientID

PRINT “Modify patient “ + newContent[0] + “’s status to?”

PRINT “1. Recovered”

PRINT “2. Deceased”

PRINT “3. Return to main menu”

PRINT “Choose option: “

READ option

IF option == “1”

newContent[10] = “R”

ELIF option == “2”

newContent[10] = “D”

ELIF option == “3”

menu()

newPatientData = patientBuilder(newContent)

newIndex = int(newContent[1]) – 1

content[newIndex] = newPatientData

OPEN patient.txt AS f METHOD w

counterIn = 0

FOR items IN content

f WRITELINES content[counterIn]

counterIn = counterIn + 1

CLOSE f

exitMenu()

counter = counter + 1

FUNCTION searchFeatureA

OPEN patient.txt AS my\_file METHOD r

content = READLINES my\_file

PRINT “Available options”

PRINT “1. Search by name”

PRINT “2. Search by ID”

PRINT “3. Go back to the main menu”

PRINT “Choose option: “

READ option

IF option == “1”

PRINT “Enter patient name (case sensitive): “

READ patientName

counter = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[0] == patientName

IF newContent[10] == “N”

status = “Healthy”

ELIF newContent[10] == “A”

status = “Infected”

ELIF newContent[10] == “R”

status = “Recovered”

ELIF newContent[10] == “D”

status = “Deceased”

ELSE

status = “status not found”

IF newContent[11] == “1”

cond = “Yes”

ELIF newContent[11] == “2”

cond = “No”

ELSE

cond = “condition not found”

PRINT "---------------------------------"

PRINT “Patient name: “ + newContent[0]

PRINT “Patient ID: “ + newContent[1]

PRINT “Patient mail: “ + newContent[2]

PRINT “Patient group: “ + newContent[3]

PRINT “Patient zone: “ + newContent[4]

PRINT “Patient status: “ + status

PRINT “Have any past medical conditions: “ + cond

PRINT "---------------------------------"

exitMenu()

counter = counter + 1

ELIF option == “2”

PRINT “Enter patient ID: “

READ patientID

counter = 0

FOR element IN content

newContent = SPLIT “;” content[counter]

DELETE newContent[-1]

IF newContent[1] == patientID

IF newContent[10] == “N”

status = “Healthy”

ELIF newContent[10] == “A”

status = “Infected”

ELIF newContent[10] == “R”

status = “Recovered”

ELIF newContent[10] == “D”

status = “Deceased”

ELSE

status = “status not found”

IF newContent[11] == “1”

cond = “Yes”

ELIF newContent[11] == “2”

cond = “No”

ELSE

cond = “condition not found”

PRINT "---------------------------------"

PRINT “Patient name: “ + newContent[0]

PRINT “Patient ID: “ + newContent[1]

PRINT “Patient mail: “ + newContent[2]

PRINT “Patient group: “ + newContent[3]

PRINT “Patient zone: “ + newContent[4]

PRINT “Patient status: “ + status

PRINT “Have any past medical conditions: “ + cond

PRINT "---------------------------------"

exitMenu()

counter = counter + 1

ELIF option == “3”

menu()

FUNCTION searchFeatureB

OPEN patient.txt AS my\_file METHOD r

content = READLINES my\_file

PRINT “Enter case ID: “

READ caseID

counter = 0

FOR element IN content

newContent = SPLIT “;” newContent[counter]

DELETE newContent[-1]

IF newContent[9] == caseID

IF newContent[10] == “A”

status = “Active”

ELIF newConent[10] == “R”

status = “Recovered”

ELIF newContent[10] == “D”

status = “Deceased”

ELSE

status = “status not found

PRINT "---------------------------------"

PRINT “Patient status for case “ + newContent[9] + “ is “ + status

PRINT "---------------------------------"

exitMenu()

counter = counter + 1

FUNCTION searchFeatureC

OPEN patient.txt AS my\_file METHOD r

content = READLINES my\_file

counter = 0

FOR element IN content

newContent = SPLIT “;” newContent[counter]

DELETE newContent[-1]

IF newContent[10] == “D”

IF newContent[11] == “1”

cond = “Yes”

ELIF newContent[11] == “2”

cond = “No”

ELSE

cond = “condition not found”

PRINT "---------------------------------"

PRINT “Patient name: “ + newContent[0]

PRINT “Patient ID: “ + newContent[1]

PRINT “Patient mail: “ + newContent[2]

PRINT “Patient group: “ + newContent[3]

PRINT “Patient zone: “ + newContent[4]

PRINT “Patient case ID: “ + newContent[9]

PRINT “Have any past medical conditions: “ + cond

PRINT "---------------------------------"

counter = counter + 1

exitMenu()

menu()

END