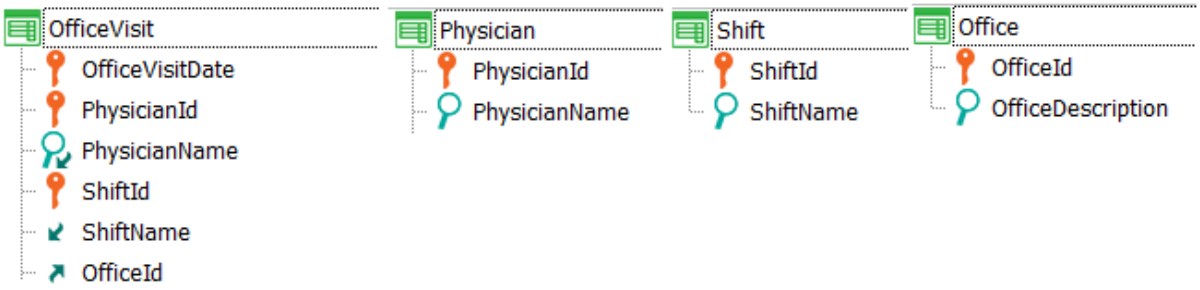
Examples of possible questions in the GeneXus Proficiency course exam

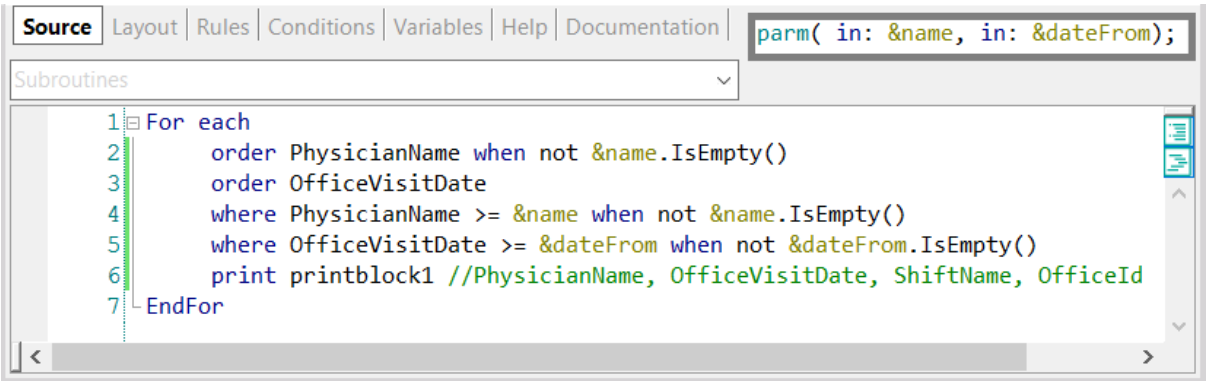
Here are three possible questions in a GeneXus Proficiency course exam: two are basic level and one is advanced level. The exam will include a combination of simple questions and more complex questions. To answer all of them, it is necessary to have watched the course videos (in those cases where topics are addressed as advanced learning from previous courses, that knowledge will be taken into account as well). Candidates will have more than 10 minutes on average to answer each exam question.

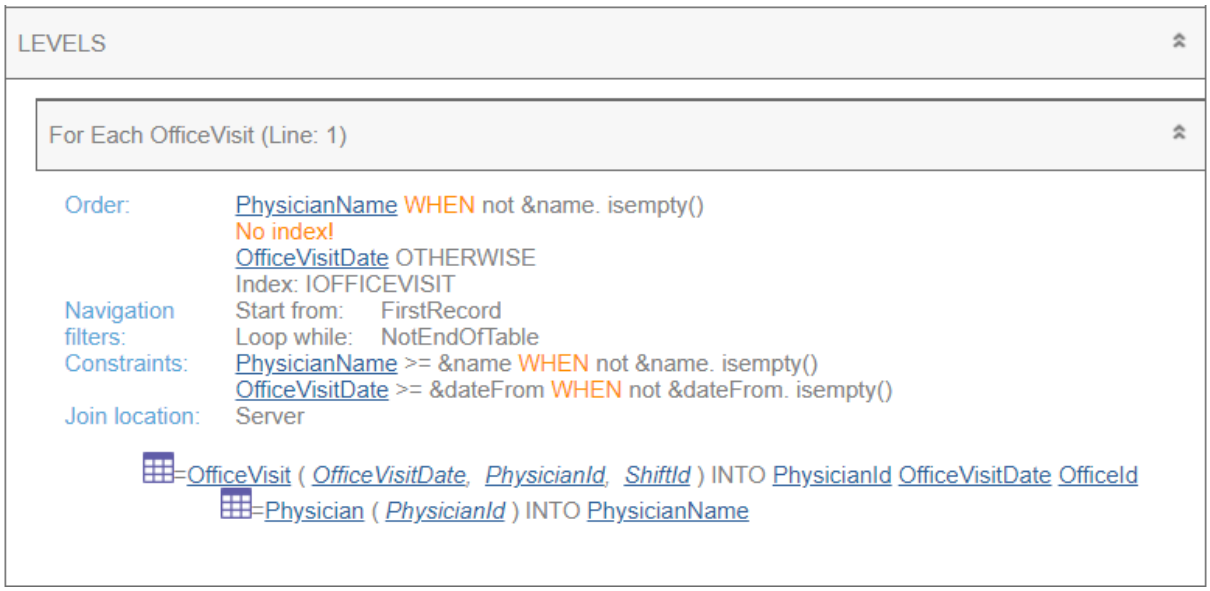
Question 1

An application is being developed for a Hospital (with the transactions indicated, where OfficeVisit represents doctor's visits).

The procedure indicated (which receives two variables by parameter in order to filter the information to be listed) has been implemented and generates the navigation list that is displayed. Indicate which of the following options is true.







a. The query that will be sent to the DBMS will be built at runtime according to whether the &name and &dateFrom variables are empty. Probably the only case in which the DBMS will have to run through the entire table is if both variables are empty.
b. The database query will not be optimized in any case DUE to the presence of when conditions in the Where clauses.
c. The database query will not be optimized in any case DUE to the presence of a conditional order.
d. None of the above.

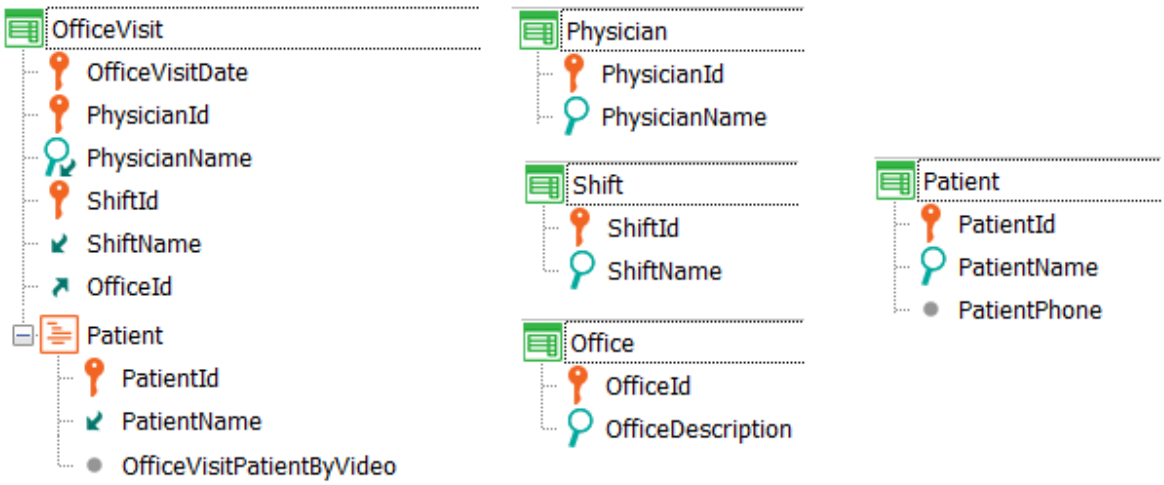
Question 2 (high difficulty, requires knowledge integration)

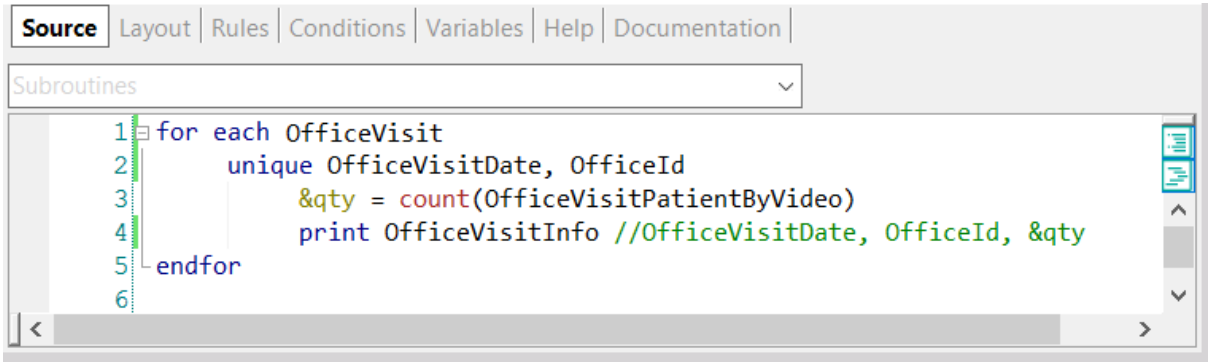
An application is being developed for a Hospital. It has the transactions displayed, where OfficeVisit represents each visit provided by a physician (Physician) in a given shift (Shift) to see a list of patients in an office (Office).

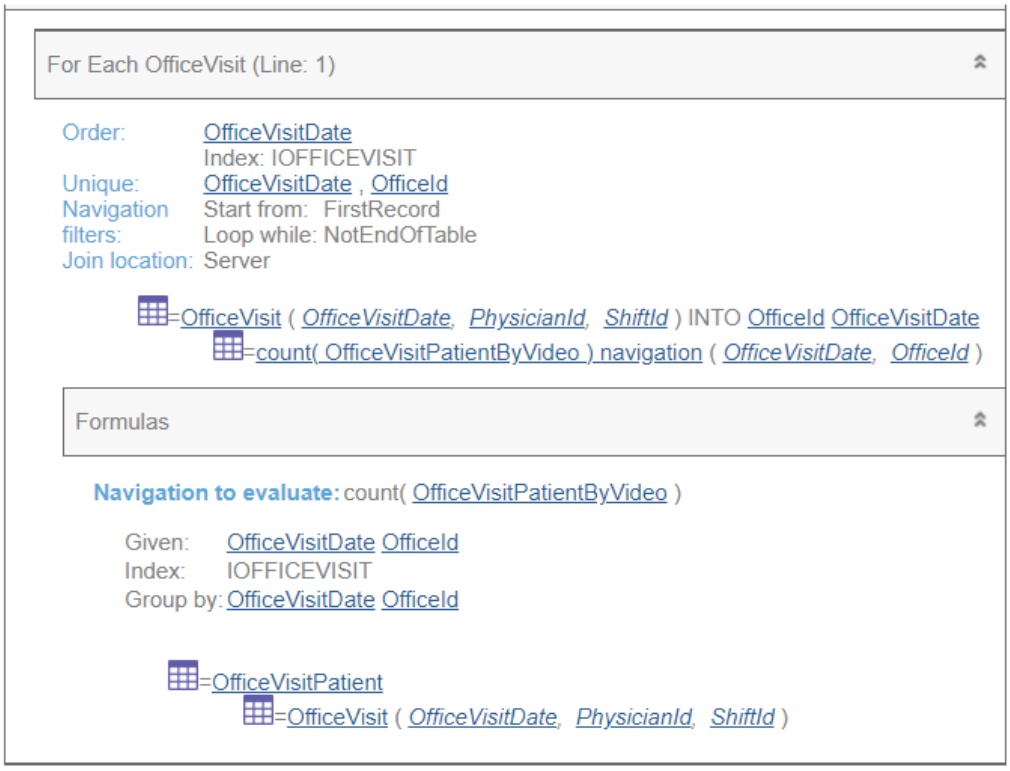
A procedure has been implemented from which the following navigation list is obtained.

The visit's date should not repeated, so the Source is modified in two different ways, as shown below.

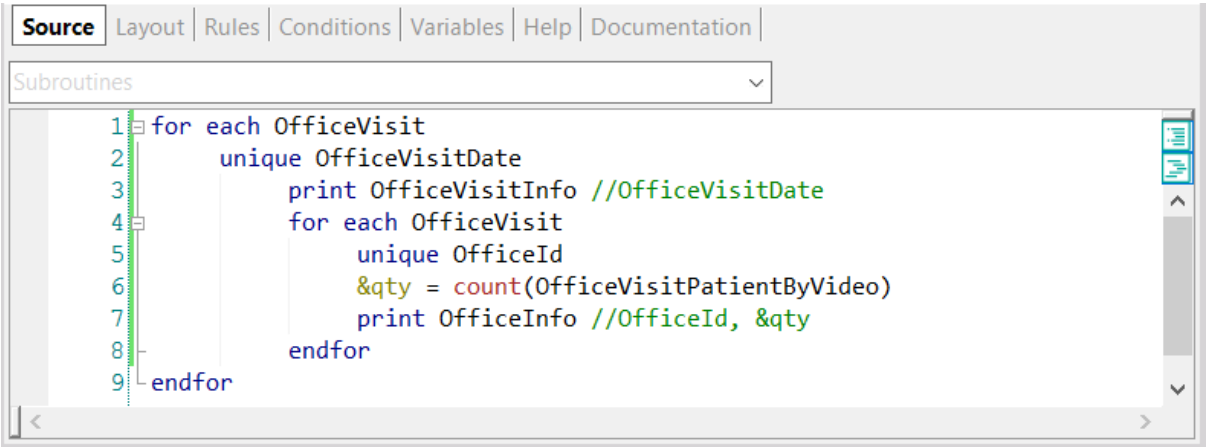
Indicate which of the following statements is true.


OfficeVisit
OfficeVisitDate
PhysicianId
PhysicianName
ShiftId
ShiftName
OfficeId
Patient
PatientId
PatientName
OfficeVisitPatientByVideo
Physician
PhysicianId
PhysicianName
Shift
ShiftId
ShiftName
Office
OfficeId
OfficeDescription
Patient
PatientId
PatientName
PatientPhone

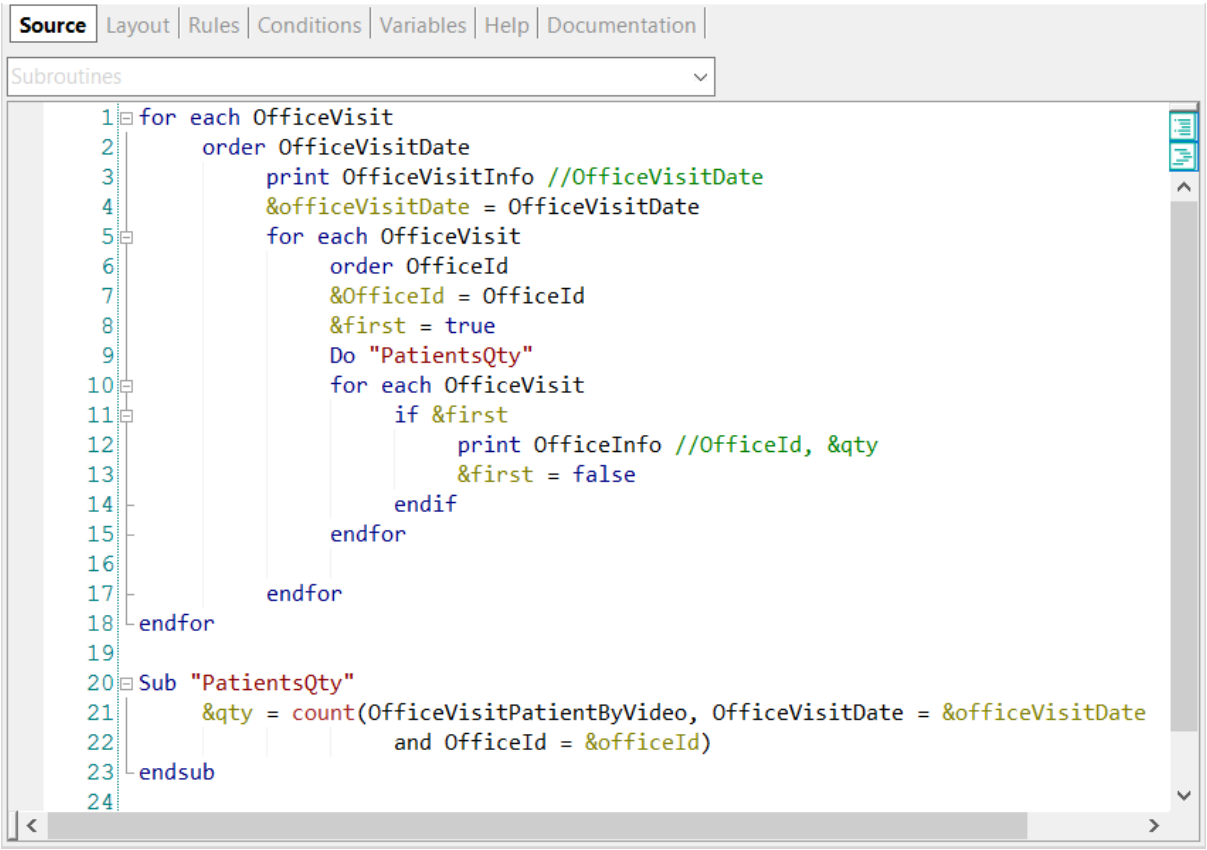

Source
Layout
Rules
Conditions
Variables
Help
Documentation
Subroutines
for each OfficeVisit
unique OfficeVisitDate, OfficeId
&qty = count(OfficeVisitPatientByVideo)
print OfficeVisitInfo //OfficeVisitDate, OfficeId, &qty
endfor


For Each OfficeVisit (Line: 1)
Order: OfficeVisitDate
Index: IOFFICEVISIT
Unique: OfficeVisitDate , OfficeId
Navigation Start from: FirstRecord
filters: Loop while: NotEndOfTable
Join location: Server
=OfficeVisit (OfficeVisitDate, PhysicianId, ShiftId) INTO OfficeId OfficeVisitDate
=count(OfficeVisitPatientByVideo) navigation (OfficeVisitDate, OfficeId)
Formulas
Navigation to evaluate: count(OfficeVisitPatientByVideo)
Given: OfficeVisitDate OfficeId
Index: IOFFICEVISIT
Group by: OfficeVisitDate OfficeId
=OfficeVisitPatient
=OfficeVisit (OfficeVisitDate, PhysicianId, ShiftId)

Implementation A



Implementation B

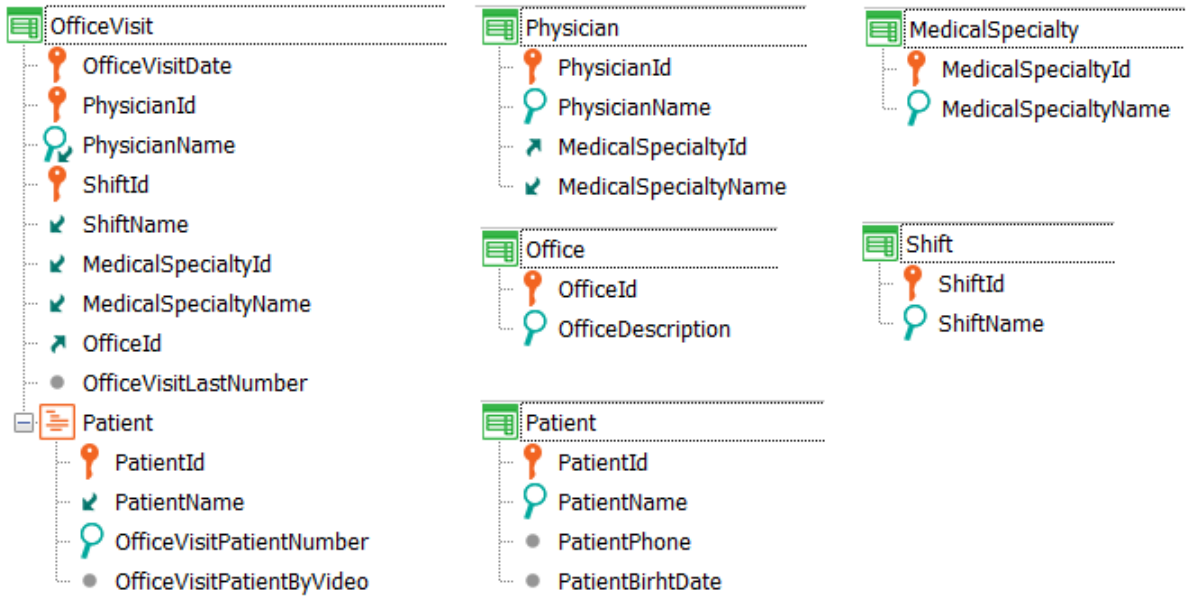


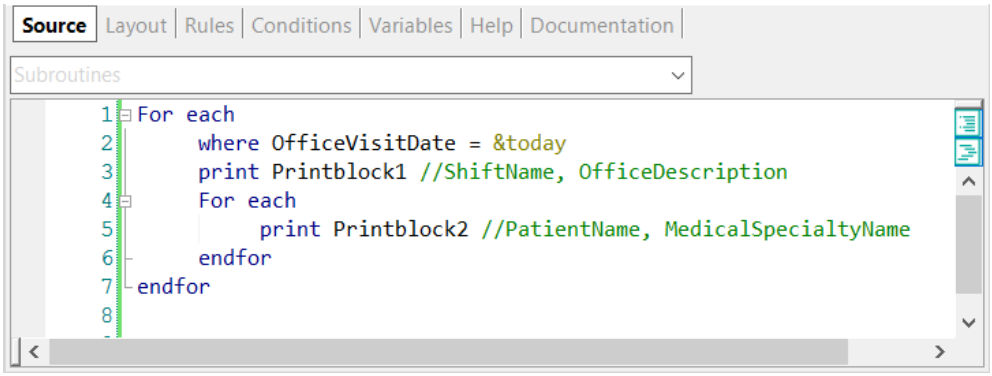
a. Only implementation A meets the requirement.
b. Only implementation B meets the requirement.
c. Both implementations meet the requirement.
d. None of the implementations meets the requirement.

Question 3

An application is being developed for a Hospital (with the transactions indicated, where OfficeVisit represents doctor's visits).

Given the procedure displayed, choose the correct answer from the options given below.





a. Main For each Base table: OfficeVisit
   Nested For each Base table: OfficeVisitPatient
b. Main For each Base table: OfficeVisit
   Nested For each Base table: Patient, where the value of MedicalSpecialtyName will be shown empty because it cannot be reached from Patient.
c. It will give an error, due to the presence of the MedicalSpecialtyName attribute in the nested For each.
d. None of the above.

ANSWERS

Question 1: a)

Explanatory text: In the video "Order clauses and performance" we saw that the navigation list shows the most conservative strategy, not the real one. This is especially so in the case of conditional clauses because the SQL query that the source program will send to the DBMS will be dynamically built depending on the values of the when conditions. In addition, we know that if it is sorted by the same attribute as the one used to filter, it is highly likely that the query will be optimized.

Question 2: b)

Explanatory text: Knowledge about the limitations of the unique clause (which cannot be used to implement control breaks) is integrated with knowledge about how to implement a triple control break, and how to use a subroutine to break the context so that unwanted implicit conditions are not added to an aggregate formula. Unique clause video

Question 3: a)

Explanatory text: To determine the base table of the nested For each, from all the attributes involved (not those of possible when duplicate or when none clauses, nor those of a Data Selector used with the in operator), the ones that already belong to the extended table of the main For each are extracted. In the remaining ones, the minimum extended table containing them is searched for.

Video: Logic for database queries in GeneXus. Base table determination