

Assignment 3 Report

This assignment is about xQuery and the queries are good examples of real applications of XML schema and the retrieval of data

The main tool I used for this assignment is the flow control tools of xquery such as for and where along with the using of different variables.

```
declare function q:getPatientTreatments($pid as element(p:patient-id), $kclinic as element(c:Clinic))
as element(p:treatment)* {

    let $pat := $kclinic/p:Patient
    where $pat/p:patient-id = $pid
    return
        for $tre in $pat/p:treatments/p:treatment
        return $tre
};
```

Here is the code for query 1

```
declare function q:getPatientDrugs($pid as element(p:patient-id), $kclinic as element(c:Clinic))
as element(q:patient-drug)* {

    let $pat := $kclinic/p:Patient
    where $pat/p:patient-id = $pid
    return
        for $tre in $pat/p:treatments/p:treatment
        return
            let $diag := $tre/t:diagnosis
            return
                for $drug in $tre/t:drug-treatment
                return <q:patient-drug>{ $drug/t:name, $diag, $drug/t:dosage }</q:patient-drug>
};
```

Here is the code for query 2, the diag variable is used to store the value and return it at its child level

```
declare function q:getTreatmentInfo($kclinic as element(c:Clinic))
as element(q:treatment-info) {
    <q:treatment-info> {
        for $pat in $kclinic/p:Patient
        return
            let $pid := $pat/p:patient-id
            return
                for $tre in $pat/p:treatments/p:treatment
                return <q:record>{$tre, $pid, $tre/t:provider-id}</q:record>

    }</q:treatment-info>
};
```

Here is the code for query 3

```

declare function q:getProviderInfo($klinik as element(c:Clinic))
  as element(q:provider-info) {
    <q:provider-info> {
      for $prov in $klinik/pr:Provider
      return <q:provider-records> {
        $prov,
        for $pat in $klinik/p:Patient
        where $pat/p:treatments/p:treatment/t:provider-id = $prov/pr:provider-id
        return <q:patient-records>{
          $pat/p:name, $pat/p:patient-id,
          for $tre in $pat/p:treatments/p:treatment
          where $tre/t:provider-id = $prov/pr:provider-id
          return $tre
        }</q:patient-records>
      }</q:provider-records>
    }</q:provider-info>
  };

```

Query 4

```

declare function q:getDrugInfo($klinik as element(c:Clinic))
  as element(q:drug-info) {
    <q:drug-info> {
      for $drug in $klinik/p:Patient/p:treatments/p:treatment/t:drug-treatment/t:name
      return <q:drug-record>{ $drug,
      for $pat in $klinik/p:Patient
      where $pat/p:treatments/p:treatment/t:drug-treatment/t:name = $drug
      return
        for $tre in $pat/p:treatments/p:treatment
        where $tre/t:drug-treatment/t:name = $drug
        return <q:treatment>{$pat/p:name,$tre/t:diagnosis,$tre/t:provider-id}</q:treatment>
      }</q:drug-record>
    }</q:drug-info>
  };

```

Query 5

The testing of the queries will be in the demonstration video. The project is written using Oxygen XML Developer.