
QUERY 1 - Returns Payroll Information for all Mechanics (Brandon)

```
/*
 * Returns the payroll info for all mechnis in 'mechanics_info.XML'
 *
 * <payroll_info>
 *   <mechanic id="1234">
 *     <name> Brandon Dooley </name>
 *     <bank_details>
 *       ...
 *     </bank_details>
 *   </mechanic>
 * </payroll_info>
 */

declare function local:get_mechanics_payroll_info()
{
  let $c:= doc("secondyear/mt/infoman_cs2041/assignments/assignment_2_XML/mechanics_info.XML")

  for $m in $c/Mechanics_Info/Mechanic

  let $firstname := $m/name/first_name/text()
  let $surname := $m/name/surname/text()
  let $fullname := concat($firstname, " ", $surname)

  return

  <payroll_info>
    <mechanic id="{ $m/@mechanic_id }" >
      <name> {$fullname} </name>
      {$m/details/bank_details}
    </mechanic>
  </payroll_info>
};

<Mechanics_Payroll_Info>
{local:get_mechanics_payroll_info()}
</Mechanics_Payroll_Info>
```

QUERY 2 - Returns all free Mechanics (Brandon)

```
/*
 * Returns a list of all the free mechanics within the system
 *
 * <Free_Mechanics>
 *   <mechanic id="1234">
 *     <name> Brandon Dooley </name>
 *   </mechanic>
 * </Free_Mechanics>
 */

declare function local:get_free_mechanics()
{
  let $c:= doc("secondyear/mt/infoman_cs2041/assignments/assignment_2_XML/mechanics_info.XML")

  for $m in $c/Mechanics_Info/Mechanic
  where $m/is_servicing/text() = "false"

  let $firstname := $m/name/first_name/text()
  let $surname := $m/name/surname/text()
  let $fullname := concat($firstname, " ", $surname)

  return

  <mechanic id="{ $m/@mechanic_id }" >
    <name> {$fullname} </name>
  </mechanic>
};

<Free_Mechanics>
{local:get_free_mechanics()}
</Free_Mechanics>
```

QUERY 3 - Get service history for mechanic x (Brandon)

```
/*
 * Returns the service history for a given mechanic x
 *
 * <Service_History>
 *   <mechanic id="1234">
 *     <name> Brandon Dooley </name>
 *     <vehicles_served>
 *       ...
 *     </vehicles_served>
 *   </mechanic>
 * </Service_History>
 */

declare function local:get_service_history_for($mechanicname as xs:string)
{
  let $c:= doc("secondyear/mt/infoman_cs2041/assignments/assignment_2_XML/mechanics_info.XML")

  for $m in $c/Mechanics_Info/Mechanic

  let $fullname := concat($m/name/first_name/text()," ",$m/name/surname/text())
  where $fullname = $mechanicname

  return

  <mechanic id="{ $m/@mechanic_id }" >
    <name> {$fullname} </name>
    {$m/vehicles_served}
  </mechanic>
};

<Service_History>
{local:get_service_history_for("Mark O'Sullivan")}
</Service_History>
```

QUERY 4 - High priority services that need to be done (Cian)

```
for $s in /services/service,
    $v in /vehicleMaintenance/service

where $v/priority = "high"
where $v/string(@id) = $s/string(@id)

return

<high_priority>
  {$s/vehicleID}
  {$s/serviceDescription}
  {$s/serviceType}
</high_priority>
```

QUERY 5 - Check stock for a part in inventory (Cian)

```
for $s in /partsInventory/part

where contains($s/@category,"clutch")

return

<part_details>
  {string($s/@category)}
  {$s/name}
  {$s/partDescription}
  {string($s/@stock)}
  {$s/RRP}
  {string($s/@id)}
</part_details>
```

QUERY 6 - Return all vehicles that need servicing (Arthur)

```
for $j in /vehicleMaintenance/service,
    $i in /services/service,
    $x in /Vehicle_Management/Vehicle

where $j/string(@id) = $i/string(@id)
where $i/string(vehicleID) = $x/string(@VehicleID)

return

<Needs_Service>
    {$i/vehicleID}
    {$x/VehicleDetails}
</Needs_Service>
```

QUERY 7 - Check for parts in stock for a particular service (Michael)

```
declare function local:partsInStock($service_id as xs:string) {

    for $servicesInMaintenance in doc("vehicle_maintenance.xml")/vehicleMaintenance/service[@id = $service_id],
        $services in doc("services.xml")/services/service,
        $partsInStock in doc("parts_inventory.xml")/partsInventory/part

    where $servicesInMaintenance/@id = $services/@id
    where $services/partsNeeded/part/@id = $partsInStock/@id

    return $partsInStock
};

<parts>
    {local:partsInStock("40292")}
</parts>
```

QUERY 8 - For Vehicle x print mechanics who've serviced it (Michael)

```
declare function local:mechanicsServiced($vehicle_id as xs:string) {

    for $mechanic in doc("Mechanics_Info.xml")/Mechanics_Info/Mechanic

    where $mechanic/vehicles_serviced/Vehicle/string(@VehicleID) = $vehicle_id

    return
    <mechanic>
        {$mechanic/name}
        <mechanicID>{$mechanic/string(@mechanic_id)}</mechanicID>
    </mechanic>
};

<mechanics>
    {local:mechanicsServiced("2019")}
</mechanics>
```

QUERY 9 - Check if admin has privileges for mechanic

```
declare function local:checkPrivileges($adminid as xs:string, $mechid as xs:string) {  
  
  let $admin := doc("Admin_Info.xml")/Admin_Info/Admin[@user_id = $adminid]  
  
  for $mechanicIds in $admin/user_privileges/mechanic_ids/mechanic_id  
  
  where contains(string($mechanicIds), $mechid)  
  
  return  
    if ($mechanicIds)  
      then "true"  
    else  
      "false"  
};  
  
local:checkPrivileges("102", "40391")
```