TASK 1 Marking

FIT9132 ASSIGNMENT 4

STUDENT ID: 34194037

Shivaramaiah Sachin

a)

Project all Item_id and Item_desc from ITEM table

$R1 = \pi_{\text{item\_id, item\_desc}} (ITEM)$

Project all Item_id from APPT_SERV table

$R2 = \pi_{\text{item\_id}} (APPT\_SERV)$

Subtracting item_id's which haven't been used

$R3 = \pi_{\text{item\_id}}, (ITEM) - R2 \bowtie R1$

Or

$\mathbf{R3 = ((\pi_{\text{item\_id}}, (ITEM) - \pi_{\text{item\_id}} (APPT\_SERV)) \bowtie (\pi_{\text{item\_id, item\_desc}} (ITEM))}$ ✓

b)

Selecting patient who live in Mooroolbark

$R1: \sigma_{\text{patient\_city = Mooroolbark}} (PATIENT)$

Selecting appointment dated on 08th September

$R2: \sigma_{\text{appt\_datetime = 08 September 2023}}(Appointment)$

Joining Patient and Appointment on Patient_no

$R3: R1 \bowtie_{\text{R1.patient\_no = R2. patient\_no}} R2$

Extracting Emergency Contact Details based on the patient

$R4: PATIENT \bowtie_{\text{patient.ec\_id = emergency\_contact.ec\_id}} EMERGENCY\_CONTACT$

Joining Filtered result with emergency contact:

R5: R3 ⋈ R4

Projecting the required fields:

RF = π _{patient_no, patient_fname, patient_lname, ec_fname, ec_lname, ec_phone} R5
 need to project before join to improve the efficiency

c)

Selecting Specialization ID:

R1 = π spec_id (σ _{spec_name=} ENDODONTICS (SPECIALISATION))

Projecting provider code with Specialization

R2 = PROVIDER ⋈ _{provider.spec_id = R1.spec_id} R1

Joining Provider with spec_id to appointment

R3 = R2 ⋈ R2. _{provider_no = appointment.provider_no} APPOINTMENT

Extracting Patient Details

R4: R3 ⋈ R3._{patient_no = patient.patient_no} (PATIENT)

Projecting the required fields:

RF = π _{patient_no, patient_fname, patient_lname patient_contactemail} (R4)

need to project before join to improve the efficiency

TASK 2 A, B, C Marking

Assignment 2B Feedback

```
SQL> --========================= START RUN =====================================---
SQL> -- Running T2-mns-select.sql
SQL>
SQL> @T2-mns-select.sql
SQL> --*****PLEASE ENTER YOUR DETAILS BELOW*****
SQL> --T2-mns-select.sql
SQL>
SQL> --Student ID:    34194037
SQL> --Student Name: Sachin Shivaramaiah
SQL> --Unit Code: FIT9136
SQL> --Applied Class No: 02_OnCampus
SQL>
SQL> /* Comments for your marker:
SQL>
SQL>
SQL>
SQL>
SQL> */
SQL>
SQL> /*2(a)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     item_id,
  3     item_desc,
  4     item_stdcost,
  5     item_stock
  6  FROM
  7     mns.item
  8  WHERE
  9         item_stock >= 50
 10     AND item_desc LIKE '%composite%'     upper/lower?
 11  ORDER BY
 12     item_stock DESC,
 13     item_id;

   ITEM_ID ITEM_DESC                                                 ITEM_STDCOST ITEM_STOCK
---------- -------------------------------------------------- ------------ ----------
        16 Universal composite                                          48         99
        17 Universal restorative composite                             46         50

SQL>
SQL> /*2(b)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL> SELECT
  2     provider_code,
  3     CASE
  4         WHEN provider_title IS NOT NULL
  5      AND provider_fname IS NOT NULL
  6      AND provider_lname IS NOT NULL THEN
  7      provider_title
  8      || ' '
```

```
   9         || provider_fname
  10         || ' '
  11         || provider_lname
  12           WHEN provider_title IS NOT NULL
  13          AND provider_fname IS NULL
  14          AND provider_lname IS NOT NULL THEN          Quite redundant
  15        provider_title
  16         || ' '
  17         || provider_lname
  18           WHEN provider_title IS NULL
  19          AND provider_fname IS NOT NULL
  20          AND provider_lname IS NOT NULL THEN
  21        provider_fname
  22         || ' '
  23         || provider_lname
  24           ELSE                                        No trim
  25        nvl(provider_title, '')
  26         || nvl(provider_fname, '')
  27         || nvl(provider_lname, '')
  28       END AS provider_name
  29    FROM
  30            mns.provider p
  31       JOIN mns.specialisation sp
  32       ON p.spec_id = sp.spec_id
  33    WHERE
  34       upper(spec_name) = upper('PAEDIATRIC DENTISTRY')
  35    ORDER BY
  36       p.provider_lname ASC,
  37       p.provider_fname,
  38       p.provider_code;

PROVID PROVIDER_NAME
------ -------------------------------------------------------------------------
PED001 Dr Kevin Barr
PED002 Dr Lee

SQL>
SQL>
SQL> /*2(c)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
   2      *
   3    FROM
   4      mns.service;

SERV SERVICE_DESC                                        SERVICE_STDFEE
---- --------------------------------------------------- --------------
D001 Oral examination                                                65
D002 Extended Consultation - 30 mins or more                         75
D003 Diagnostic model                                                60
X001 Intraoral radiograph - per x-ray                                45
X002 Panoramic radiograph - per x-ray                                85
P001 Removal of plaque and / or stain                                90
```

```
P002 Removal of calculus                                               165
P003 Fissure sealing                                                    58
PG01 Treatment of acute periodontal infection                          170
PG02 Root planing and subgingival curettage:per tooth                  120
EX01 Removal of a tooth or part thereof                                175
EX02 Surgical removal of a tooth                                       425
EX03 Dental bone grafts                                                500
RC01 Preparation of root canal - one canal                             225
RC02 Preparation of root canal - each additional canal                 120
RC03 Root canal obturation - one canal                                 265
RC04 Root canal obturation - each additional canal                     120
DF01 Anterior Filling (front teeth)                                    175
DF02 Posterior Filling (back teeth)                                    185
DV01 Veneer Cusp capping                                               175
DV02 Veneer - composite                                                185
DV03 Veneer - porcelain                                                185
DV04 Post Veneer                                                       165
DC01 Preparation for crown                                             175
DC02 Full crown - CEREC same day crown                                1500
DC03 Full crown                                                       1200
DC04 Post and core for crown                                           250
DC05 Recementing crown or veneer                                       150
DT01 Impressions of jaw                                                300
DT02 Denture Occlusive registration                                    200
DT03 Denture Wax trial                                                 250
DT04 Denture fitting                                                   800
DT05 Cleaning and polishing of existing denture                         80
OT01 Design treatment                                                  500
OT02 Brace placement                                                  3000
OT03 Wire insertion                                                   1000
OT04 Brace Adjustments                                                 100

37 rows selected.

SQL>
SQL> SELECT
  2     service_code,
  3     service_desc,
  4     to_char(service_stdfee, '$999,999.99') AS high_service_fee
  5  FROM
  6     mns.service
  7  WHERE
  8     service_stdfee > (
  9         SELECT
 10      AVG(service_stdfee)
 11         FROM
 12      mns.service
 13     )
 14  ORDER BY
 15     service_stdfee DESC,
 16     service_code ASC;

SERV SERVICE_DESC                                      HIGH_SERVICE
---- ------------------------------------------------- ------------
OT02 Brace placement                                    $3,000.00
DC02 Full crown - CEREC same day crown                  $1,500.00
```

Ipad?

```
DC03 Full crown                                         $1,200.00
OT03 Wire insertion                                     $1,000.00
DT04 Denture fitting                                      $800.00
EX03 Dental bone grafts                                   $500.00
OT01 Design treatment                                     $500.00
EX02 Surgical removal of a tooth                          $425.00

8 rows selected.

SQL>
SQL> SELECT
  2     AVG(service_stdfee)
  3  FROM
  4     mns.service;

AVG(SERVICE_STDFEE)
-------------------
         360.486486

SQL>
SQL> /*2(d)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     appt_no,
  3     appt_datetime,
  4     patient_no,
  5     patient_fname
  6     || ' '
  7     || patient_lname AS patient_full_name,
  8     lpad(to_char(appt_total_cost, '$99999.99'),
  9          25,
 10          ' ')    AS appointment_total_cost
 11  FROM
 12     (
 13          SELECT
 14      a.appt_no,
 15      a.appt_datetime,
 16      p.patient_no,
 17      p.patient_fname,
 18      p.patient_lname,
 19      SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity,
 20      0)) AS appt_total_cost
 21          FROM
 22              mns.appointment a
 23      JOIN mns.patient    p
 24      ON a.patient_no = p.patient_no
 25      LEFT JOIN mns.apptservice_item asi
 26      ON a.appt_no = asi.appt_no
 27      LEFT JOIN mns.service   s
 28      ON asi.service_code = s.service_code
 29      LEFT JOIN mns.item  i
 30      ON asi.item_id = i.item_id
 31          GROUP BY
```

```
32      a.appt_no,
33      a.appt_datetime,
34      p.patient_no,
35      p.patient_fname,
36      p.patient_lname
37    ) ts
38  WHERE
39    ts.appt_total_cost = (
40        SELECT
41    MAX(sub.appt_total_cost)
42        FROM
43    (
44        SELECT
45     a.appt_no,
46     SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity
47     , 0)) AS appt_total_cost
48        FROM
49     mns.appointment        a
50     LEFT JOIN mns.apptservice_item asi
51     ON a.appt_no = asi.appt_no
52     LEFT JOIN mns.service  s
53     ON asi.service_code = s.service_code
54     LEFT JOIN mns.item  i
55     ON asi.item_id = i.item_id
56        GROUP BY
57     a.appt_no
58    ) sub
59    )
60  ORDER BY
61    appt_no;
```

```
   APPT_NO APPT_DATE PATIENT_NO PATIENT_FULL_NAME                                                              APPOINTMENT_TOTAL_COST
----------- --------- ---------- ------------------------------------------------------------------------------ ------------------------------------------
------------------------------------------------------------
        22 14/SEP/23         13 Rebecca Ricardo                                                                               $8070.00
```

```
SQL>
SQL>
SQL> -- where join mns.apptservcie aps ;
SQL>
SQL> /*2(e)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     s.service_code,
  3     s.service_desc   AS "Service_Description",
  4     s.service_stdfee AS "Service_Standard_Fee",
  5     a.apptserv_fee   AS "Appointment_Service_Fee",
  6     round(AVG(a.apptserv_fee) - s.service_stdfee,
  7          2)   AS "Service_Fee_Differential"
  8  FROM
  9        mns.service s
 10     JOIN mns.appt_serv a
 11     ON s.service_code = a.service_code
```

```
12   GROUP BY
13     s.service_code,
14     s.service_desc,
15     s.service_stdfee,
16     a.apptserv_fee
17   ORDER BY
18     s.service_code;
```

```
SERV Service_Description                               Service_Standard_Fee Appointment_Service_Fee Service_Fee_Differential
---- ------------------------------------------------- -------------------- ----------------------- ------------------------
D001 Oral examination                                                    65                      50                      -15
D001 Oral examination                                                    65                      60                       -5
D001 Oral examination                                                    65                      65                        0
D002 Extended Consultation - 30 mins or more                            75                      75                        0
D002 Extended Consultation - 30 mins or more                            75                      80                        5
DC01 Preparation for crown                                             175                     175                        0
DC03 Full crown                                                       1200                    1250                       50
DF01 Anterior Filling (front teeth)                                    175                     175                        0
EX01 Removal of a tooth or part thereof                                175                     190                       15
EX02 Surgical removal of a tooth                                       425                     425                        0
EX03 Dental bone grafts                                                500                     525                       25
OT01 Design treatment                                                  500                     520                       20
OT02 Brace placement                                                  3000                    2700                     -300
OT03 Wire insertion                                                   1000                     900                     -100
P001 Removal of plaque and / or stain                                   90                      75                      -15
P001 Removal of plaque and / or stain                                   90                      80                      -10
P001 Removal of plaque and / or stain                                   90                      85                       -5
P001 Removal of plaque and / or stain                                   90                      90                        0
P002 Removal of calculus                                               165                     125                      -40
P002 Removal of calculus                                               165                     140                      -25
P002 Removal of calculus                                               165                     150                      -15
P003 Fissure sealing                                                    58                      55                       -3
PG01 Treatment of acute periodontal infection                         170                     160                      -10
PG01 Treatment of acute periodontal infection                         170                     180                       10
RC01 Preparation of root canal - one canal                            225                     225                        0
RC02 Preparation of root canal - each additional canal                120                     200                       80
RC03 Root canal obturation - one canal                                265                     265                        0
RC04 Root canal obturation - each additional canal                    120                     240                      120
X001 Intraoral radiograph - per x-ray                                   45                      45                        0
X001 Intraoral radiograph - per x-ray                                   45                      80                       35

30 rows selected.

SQL>
SQL>
SQL>
SQL>
SQL> /*2(f)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    p.patient_no,
  3    p.patient_fname
  4    || ' '
  5    || p.patient_lname        AS patientname,
```

```
 6     floor(months_between(sysdate, p.patient_dob) / 12) AS currentage,
 7     COUNT(a.appt_no)        AS numappts,
 8     lpad(to_char(round((COUNT(
 9         CASE
10      WHEN a.appt_prior_apptno > 0 THEN
11          1
12         END
13     ) / COUNT(a.appt_no)) * 100,
14         1),
15          '990.0'),
16         8)
17     || '%'           AS followups
18  FROM
19        mns.patient p
20     JOIN mns.appointment a
21     ON p.patient_no = a.patient_no
22  GROUP BY
23     p.patient_no,
24     p.patient_fname,
25     p.patient_lname,
26     p.patient_dob;
```

```
PATIENT_NO PATIENTNAME                                               CURRENTAGE   NUMAPPTS FOLLOWUPS
---------- -------------------------------------------------------- ---------- ---------- -------------------------------
         7 Charli Hansman                                                    7          1     0.0%
         9 Ashley Soares                                                    48          1     0.0%
        13 Rebecca Ricardo                                                  38          2    50.0%
        11 Joshua McBurney                                                   6          2     0.0%
        15 Anthony Raggatt                                                  26          1     0.0%
         3 Darcy                                                            72          2    50.0%
         4 Marie-Rose Johnson                                               13          1     0.0%
         8 Alice Bayldon                                                     6          2    50.0%
        12 Thalia McBurney                                                   4          2     0.0%
        14 Jonathan Jageurs                                                 62          2    50.0%
         1 Jake Auld                                                        56          3    66.7%
         2  Roberts                                                         27          1     0.0%
         5 Sally Johnson                                                    10          1     0.0%
         6 Gemma Hansman                                                    43          1     0.0%
        16 Lincoln Hansman                                                  51          1     0.0%
        10 Imogen                                                            9          2    50.0%

16 rows selected.

SQL>
SQL>
SQL> /*2(g)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL>
SQL> SELECT
  2     p.provider_code AS pcode,
  3     lpad(
  4         CASE
  5      WHEN COUNT(a.appt_no) = 0 THEN
```

```
 6            '-'
 7        ELSE
 8            to_char(COUNT(a.appt_no))
 9          END,
10          10) AS numberappts,
11      lpad(
12          CASE
13      WHEN SUM(asi.apptserv_fee) IS NULL THEN
14          '-'
15        ELSE
16          '$'
17          || floor(SUM(asi.apptserv_fee))
18          || '.'
19          || lpad(mod(round(SUM(asi.apptserv_fee) * 100),
20          100),
21            2,
22            '0')
23          END,
24          10) AS totalfees,
25      lpad(
26          CASE
27      WHEN SUM(att.as_item_quantity) IS NULL THEN
28          '-'
29        ELSE
30            to_char(SUM(att.as_item_quantity))
31          END,
32          7)  AS noitems
33  FROM
34      mns.provider        p
35      LEFT JOIN mns.appointment a
36      ON p.provider_code = a.provider_code
37          AND a.appt_datetime BETWEEN TO_DATE('10-SEP-2023 09:00:00', 'DD-MON-YYYY HH24:MI:SS'
38          ) AND TO_DATE('14-SEP-2023 17:00:00', 'DD-MON-YYYY HH24:MI:SS')
39      LEFT JOIN mns.appt_serv asi
40      ON asi.appt_no = a.appt_no
41      LEFT JOIN mns.apptservice_item att
42      ON asi.appt_no = att.appt_no
43  GROUP BY
44      p.provider_code
45  ORDER BY
46      p.provider_code;
```

PCODE	NUMBERAPPTS	TOTALFEES	NOITEMS
AST001	4	$400.00	-
AST002	-	-	-
END001	6	$1515.00	14
GEN001	-	-	-
GEN002	6	$500.00	-
GEN003	-	-	-
ORS001	3	$340.00	10
ORT001	10	$15000.00	88
PED001	4	$480.00	4
PED002	8	$700.00	8
PER001	2	$360.00	3
PER002	2	$320.00	2

```
PRO001            2                                    $1425.00                                    -

13 rows selected.

SQL>
SQL> --============================== END RUN ======================================---
SQL> set echo off
```

TASK 2 D, E Marking

Assignment 2B Feedback

```
SQL> --========================= START RUN =======================================---
SQL> -- Running T2-mns-select.sql
SQL>
SQL> @T2-mns-select.sql
SQL> --*****PLEASE ENTER YOUR DETAILS BELOW*****
SQL> --T2-mns-select.sql
SQL>
SQL> --Student ID:   34194037
SQL> --Student Name: Sachin Shivaramaiah
SQL> --Unit Code: FIT9136
SQL> --Applied Class No: 02_OnCampus
SQL>
SQL> /* Comments for your marker:
SQL>
SQL>
SQL>
SQL>
SQL> */
SQL>
SQL> /*2(a)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     item_id,
  3     item_desc,
  4     item_stdcost,
  5     item_stock
  6  FROM
  7     mns.item
  8  WHERE
  9         item_stock >= 50
 10     AND item_desc LIKE '%composite%'
 11  ORDER BY
 12     item_stock DESC,
 13     item_id;

   ITEM_ID ITEM_DESC                                              ITEM_STDCOST ITEM_STOCK
---------- -------------------------------------------------- ------------ ----------
        16 Universal composite                                          48         99
        17 Universal restorative composite                              46         50

SQL>
SQL> /*2(b)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL> SELECT
  2     provider_code,
  3     CASE
  4         WHEN provider_title IS NOT NULL
  5      AND provider_fname IS NOT NULL
  6      AND provider_lname IS NOT NULL THEN
  7      provider_title
  8      || ' '
```

```
   9       || provider_fname
  10       || ' '
  11       || provider_lname
  12          WHEN provider_title IS NOT NULL
  13       AND provider_fname IS NULL
  14       AND provider_lname IS NOT NULL THEN
  15        provider_title
  16       || ' '
  17       || provider_lname
  18          WHEN provider_title IS NULL
  19       AND provider_fname IS NOT NULL
  20       AND provider_lname IS NOT NULL THEN
  21        provider_fname
  22       || ' '
  23       || provider_lname
  24          ELSE
  25        nvl(provider_title, '')
  26       || nvl(provider_fname, '')
  27       || nvl(provider_lname, '')
  28      END AS provider_name
  29    FROM
  30          mns.provider p
  31      JOIN mns.specialisation sp
  32      ON p.spec_id = sp.spec_id
  33    WHERE
  34      upper(spec_name) = upper('PAEDIATRIC DENTISTRY')
  35    ORDER BY
  36      p.provider_lname ASC,
  37      p.provider_fname,
  38      p.provider_code;

PROVID PROVIDER_NAME
------ ------------------------------------------------------------------------
PED001 Dr Kevin Barr
PED002 Dr Lee

SQL>
SQL>
SQL> /*2(c)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
   2      *
   3    FROM
   4      mns.service;

SERV SERVICE_DESC                                            SERVICE_STDFEE
---- ------------------------------------------------------- --------------
D001 Oral examination                                                    65
D002 Extended Consultation - 30 mins or more                             75
D003 Diagnostic model                                                    60
X001 Intraoral radiograph - per x-ray                                    45
X002 Panoramic radiograph - per x-ray                                    85
P001 Removal of plaque and / or stain                                    90
```

```
P002 Removal of calculus                                               165
P003 Fissure sealing                                                    58
PG01 Treatment of acute periodontal infection                          170
PG02 Root planing and subgingival curettage:per tooth                  120
EX01 Removal of a tooth or part thereof                                175
EX02 Surgical removal of a tooth                                       425
EX03 Dental bone grafts                                                500
RC01 Preparation of root canal - one canal                             225
RC02 Preparation of root canal - each additional canal                 120
RC03 Root canal obturation - one canal                                 265
RC04 Root canal obturation - each additional canal                     120
DF01 Anterior Filling (front teeth)                                    175
DF02 Posterior Filling (back teeth)                                    185
DV01 Veneer Cusp capping                                               175
DV02 Veneer - composite                                                185
DV03 Veneer - porcelain                                                185
DV04 Post Veneer                                                       165
DC01 Preparation for crown                                             175
DC02 Full crown - CEREC same day crown                                1500
DC03 Full crown                                                       1200
DC04 Post and core for crown                                           250
DC05 Recementing crown or veneer                                       150
DT01 Impressions of jaw                                                300
DT02 Denture Occlusive registration                                    200
DT03 Denture Wax trial                                                 250
DT04 Denture fitting                                                   800
DT05 Cleaning and polishing of existing denture                         80
OT01 Design treatment                                                  500
OT02 Brace placement                                                  3000
OT03 Wire insertion                                                   1000
OT04 Brace Adjustments                                                 100

37 rows selected.

SQL>
SQL> SELECT
  2      service_code,
  3      service_desc,
  4      to_char(service_stdfee, '$999,999.99') AS high_service_fee
  5  FROM
  6      mns.service
  7  WHERE
  8      service_stdfee > (
  9          SELECT
 10      AVG(service_stdfee)
 11          FROM
 12      mns.service
 13      )
 14  ORDER BY
 15      service_stdfee DESC,
 16      service_code ASC;

SERV SERVICE_DESC                                       HIGH_SERVICE
---- -------------------------------------------------- ------------
OT02 Brace placement                                     $3,000.00
DC02 Full crown - CEREC same day crown                   $1,500.00
```

```
DC03 Full crown                                          $1,200.00
OT03 Wire insertion                                      $1,000.00
DT04 Denture fitting                                       $800.00
EX03 Dental bone grafts                                    $500.00
OT01 Design treatment                                      $500.00
EX02 Surgical removal of a tooth                           $425.00

8 rows selected.

SQL>
SQL> SELECT
  2    AVG(service_stdfee)
  3  FROM
  4    mns.service;

AVG(SERVICE_STDFEE)
-------------------
         360.486486

SQL>
SQL> /*2(d)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    appt_no,
  3    appt_datetime,
  4    patient_no,
  5    patient_fname
  6    || ' '
  7    || patient_lname AS patient_full_name,
  8    lpad(to_char(appt_total_cost, '$99999.99'),
  9          25,
 10          ' ')   AS appointment_total_cost
 11  FROM
 12    (
 13        SELECT
 14    a.appt_no,
 15    a.appt_datetime,
 16    p.patient_no,
 17    p.patient_fname,
 18    p.patient_lname,
 19    SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity,
 20    0)) AS appt_total_cost
 21        FROM
 22          mns.appointment a
 23    JOIN mns.patient    p
 24    ON a.patient_no = p.patient_no
 25    LEFT JOIN mns.apptservice_item asi
 26    ON a.appt_no = asi.appt_no
 27    LEFT JOIN mns.service   s
 28    ON asi.service_code = s.service_code
 29    LEFT JOIN mns.item  i
 30    ON asi.item_id = i.item_id
 31        GROUP BY
```

full mark:

- to_char for date & trim for name

- formatting total cost

```
32      a.appt_no,
33      a.appt_datetime,
34      p.patient_no,
35      p.patient_fname,
36      p.patient_lname
37    ) ts
38  WHERE
39    ts.appt_total_cost = (
40        SELECT
41      MAX(sub.appt_total_cost)
42        FROM
43      (
44        SELECT
45        a.appt_no,
46        SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity
47        , 0)) AS appt_total_cost
48          FROM
49        mns.appointment       a
50        LEFT JOIN mns.apptservice_item asi
51        ON a.appt_no = asi.appt_no
52        LEFT JOIN mns.service   s
53        ON asi.service_code = s.service_code
54        LEFT JOIN mns.item   i
55        ON asi.item_id = i.item_id
56          GROUP BY
57        a.appt_no
58      ) sub
59      )
60  ORDER BY
61    appt_no;
```

✗

missing HAVING condition

```
  APPT_NO APPT_DATE PATIENT_NO PATIENT_FULL_NAME                                                        APPOINTMENT_TOTAL_COST
----------- --------- ---------- ---------------------------------------------------------------- --------------------------------------------
------------------------------------------------------------
       22 14/SEP/23         13 Rebecca Ricardo                                                                         $8070.00
```

✗

```
SQL>
SQL>
SQL> -- where join mns.apptservcie aps ;
SQL>
SQL> /*2(e)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    s.service_code,
  3    s.service_desc   AS "Service_Description",
  4    s.service_stdfee AS "Service_Standard_Fee",
  5    a.apptserv_fee   AS "Appointment_Service_Fee",
  6    round(AVG(a.apptserv_fee) - s.service_stdfee,
  7        2)   AS "Service_Fee_Differential"
  8  FROM
  9        mns.service s
 10    JOIN mns.appt_serv a
 11    ON s.service_code = a.service_code
```

service fee differential

must be formatting

missing where

```
 12  GROUP BY
 13    s.service_code,
 14    s.service_desc,
 15    s.service_stdfee,
 16    a.apptserv_fee
 17  ORDER BY
 18    s.service_code;
```

SERV	Service_Description	Service_Standard_Fee	Appointment_Service_Fee	Service_Fee_Differential
D001	Oral examination	65	50	-15
D001	Oral examination	65	60	-5
D001	Oral examination	65	65	0
D002	Extended Consultation - 30 mins or more	75	75	0
D002	Extended Consultation - 30 mins or more	75	80	5
DC01	Preparation for crown	175	175	0
DC03	Full crown	1200	1250	50
DF01	Anterior Filling (front teeth)	175	175	0
EX01	Removal of a tooth or part thereof	175	190	15
EX02	Surgical removal of a tooth	425	425	0
EX03	Dental bone grafts	500	525	25
OT01	Design treatment	500	520	20
OT02	Brace placement	3000	2700	-300
OT03	Wire insertion	1000	900	-100
P001	Removal of plaque and / or stain	90	75	-15
P001	Removal of plaque and / or stain	90	80	-10
P001	Removal of plaque and / or stain	90	85	-5
P001	Removal of plaque and / or stain	90	90	0
P002	Removal of calculus	165	125	-40
P002	Removal of calculus	165	140	-25
P002	Removal of calculus	165	150	-15
P003	Fissure sealing	58	55	-3
PG01	Treatment of acute periodontal infection	170	160	-10
PG01	Treatment of acute periodontal infection	170	180	10
RC01	Preparation of root canal - one canal	225	225	0
RC02	Preparation of root canal - each additional canal	120	200	80
RC03	Root canal obturation - one canal	265	265	0
RC04	Root canal obturation - each additional canal	120	240	120
X001	Intraoral radiograph - per x-ray	45	45	0
X001	Intraoral radiograph - per x-ray	45	80	35

```
30 rows selected.

SQL>
SQL>
SQL>
SQL> /*2(f)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    p.patient_no,
  3    p.patient_fname
  4    || ' '
  5    || p.patient_lname        AS patientname,
```

```
 6    floor(months_between(sysdate, p.patient_dob) / 12) AS currentage,
 7    COUNT(a.appt_no)         AS numappts,
 8    lpad(to_char(round((COUNT(
 9       CASE
10    WHEN a.appt_prior_apptno > 0 THEN
11       1
12       END
13    ) / COUNT(a.appt_no)) * 100,
14       1),
15       '990.0'),
16       8)
17    || '%'         AS followups
18  FROM
19       mns.patient p
20    JOIN mns.appointment a
21    ON p.patient_no = a.patient_no
22  GROUP BY
23    p.patient_no,
24    p.patient_fname,
25    p.patient_lname,
26    p.patient_dob;
```

```
PATIENT_NO PATIENTNAME                                                CURRENTAGE   NUMAPPTS FOLLOWUPS
---------- ---------------------------------------------------------- ---------- ---------- ------------------------------
         7 Charli Hansman                                                      7          1      0.0%
         9 Ashley Soares                                                      48          1      0.0%
        13 Rebecca Ricardo                                                    38          2     50.0%
        11 Joshua McBurney                                                     6          2      0.0%
        15 Anthony Raggatt                                                    26          1      0.0%
         3 Darcy                                                              72          2     50.0%
         4 Marie-Rose Johnson                                                 13          1      0.0%
         8 Alice Bayldon                                                       6          2     50.0%
        12 Thalia McBurney                                                     4          2      0.0%
        14 Jonathan Jageurs                                                   62          2     50.0%
         1 Jake Auld                                                          56          3     66.7%
         2  Roberts                                                           27          1      0.0%
         5 Sally Johnson                                                      10          1      0.0%
         6 Gemma Hansman                                                      43          1      0.0%
        16 Lincoln Hansman                                                    51          1      0.0%
        10 Imogen                                                              9          2     50.0%
```

16 rows selected.

```
SQL>
SQL>
SQL> /*2(g)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL>
SQL> SELECT
  2    p.provider_code AS pcode,
  3    lpad(
  4       CASE
  5    WHEN COUNT(a.appt_no) = 0 THEN
```

```
 6            '-'
 7        ELSE
 8            to_char(COUNT(a.appt_no))
 9          END,
10          10) AS numberappts,
11      lpad(
12          CASE
13      WHEN SUM(asi.apptserv_fee) IS NULL THEN
14          '-'
15        ELSE
16            '$'
17          || floor(SUM(asi.apptserv_fee))
18          || '.'
19          || lpad(mod(round(SUM(asi.apptserv_fee) * 100),
20        100),
21           2,
22           '0')
23          END,
24          10) AS totalfees,
25      lpad(
26          CASE
27      WHEN SUM(att.as_item_quantity) IS NULL THEN
28          '-'
29        ELSE
30            to_char(SUM(att.as_item_quantity))
31          END,
32          7)  AS noitems
33  FROM
34    mns.provider        p
35      LEFT JOIN mns.appointment a
36      ON p.provider_code = a.provider_code
37        AND a.appt_datetime BETWEEN TO_DATE('10-SEP-2023 09:00:00', 'DD-MON-YYYY HH24:MI:SS'
38        ) AND TO_DATE('14-SEP-2023 17:00:00', 'DD-MON-YYYY HH24:MI:SS')
39      LEFT JOIN mns.appt_serv asi
40      ON asi.appt_no = a.appt_no
41      LEFT JOIN mns.apptservice_item att
42      ON asi.appt_no = att.appt_no
43  GROUP BY
44    p.provider_code
45  ORDER BY
46    p.provider_code;
```

PCODE	NUMBERAPPTS	TOTALFEES	NOITEMS
AST001	4	$400.00	-
AST002	-	-	-
END001	6	$1515.00	14
GEN001	-	-	-
GEN002	6	$500.00	-
GEN003	-	-	-
ORS001	3	$340.00	10
ORT001	10	$15000.00	88
PED001	4	$480.00	4
PED002	8	$700.00	8
PER001	2	$360.00	3
PER002	2	$320.00	2

```
PRO001            2                                    $1425.00                                    -

13 rows selected.

SQL>
SQL> ------------------------------- END RUN =======================================---
SQL> set echo off
```

TASK 2 F, G Marking

```
SQL> --========================= START RUN =====================================---
SQL> -- Running T2-mns-select.sql
SQL>
SQL> @T2-mns-select.sql
SQL> --*****PLEASE ENTER YOUR DETAILS BELOW*****
SQL> --T2-mns-select.sql
SQL>
SQL> --Student ID:   34194037
SQL> --Student Name: Sachin Shivaramaiah
SQL> --Unit Code: FIT9136
SQL> --Applied Class No: 02_OnCampus
SQL>
SQL> /* Comments for your marker:
SQL>
SQL>
SQL>
SQL>
SQL> */
SQL>
SQL> /*2(a)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    item_id,
  3    item_desc,
  4    item_stdcost,
  5    item_stock
  6  FROM
  7    mns.item
  8  WHERE
  9      item_stock >= 50
 10    AND item_desc LIKE '%composite%'
 11  ORDER BY
 12    item_stock DESC,
 13    item_id;

   ITEM_ID ITEM_DESC                                          ITEM_STDCOST ITEM_STOCK
---------- -------------------------------------------------- ------------ ----------
        16 Universal composite                                         48         99
        17 Universal restorative composite                             46         50

SQL>
SQL> /*2(b)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL> SELECT
  2    provider_code,
  3    CASE
  4        WHEN provider_title IS NOT NULL
  5      AND provider_fname IS NOT NULL
  6      AND provider_lname IS NOT NULL THEN
  7      provider_title
  8      || ' '
```

```
 9       || provider_fname
10       || ' '
11       || provider_lname
12          WHEN provider_title IS NOT NULL
13        AND provider_fname IS NULL
14        AND provider_lname IS NOT NULL THEN
15       provider_title
16       || ' '
17       || provider_lname
18          WHEN provider_title IS NULL
19        AND provider_fname IS NOT NULL
20        AND provider_lname IS NOT NULL THEN
21       provider_fname
22       || ' '
23       || provider_lname
24          ELSE
25       nvl(provider_title, '')
26       || nvl(provider_fname, '')
27       || nvl(provider_lname, '')
28     END AS provider_name
29   FROM
30         mns.provider p
31     JOIN mns.specialisation sp
32     ON p.spec_id = sp.spec_id
33   WHERE
34     upper(spec_name) = upper('PAEDIATRIC DENTISTRY')
35   ORDER BY
36     p.provider_lname ASC,
37     p.provider_fname,
38     p.provider_code;

PROVID PROVIDER_NAME
------ --------------------------------------------------------------------------
PED001 Dr Kevin Barr
PED002 Dr Lee

SQL>
SQL>
SQL> /*2(c)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     *
  3   FROM
  4     mns.service;

SERV SERVICE_DESC                                          SERVICE_STDFEE
---- ----------------------------------------------------- --------------
D001 Oral examination                                                  65
D002 Extended Consultation - 30 mins or more                           75
D003 Diagnostic model                                                  60
X001 Intraoral radiograph - per x-ray                                  45
X002 Panoramic radiograph - per x-ray                                  85
P001 Removal of plaque and / or stain                                  90
```

```
P002 Removal of calculus                                              165
P003 Fissure sealing                                                   58
PG01 Treatment of acute periodontal infection                         170
PG02 Root planing and subgingival curettage:per tooth                 120
EX01 Removal of a tooth or part thereof                               175
EX02 Surgical removal of a tooth                                      425
EX03 Dental bone grafts                                               500
RC01 Preparation of root canal - one canal                            225
RC02 Preparation of root canal - each additional canal                120
RC03 Root canal obturation - one canal                                265
RC04 Root canal obturation - each additional canal                    120
DF01 Anterior Filling (front teeth)                                   175
DF02 Posterior Filling (back teeth)                                   185
DV01 Veneer Cusp capping                                              175
DV02 Veneer - composite                                               185
DV03 Veneer - porcelain                                               185
DV04 Post Veneer                                                      165
DC01 Preparation for crown                                            175
DC02 Full crown - CEREC same day crown                               1500
DC03 Full crown                                                      1200
DC04 Post and core for crown                                          250
DC05 Recementing crown or veneer                                      150
DT01 Impressions of jaw                                               300
DT02 Denture Occlusive registration                                   200
DT03 Denture Wax trial                                                250
DT04 Denture fitting                                                  800
DT05 Cleaning and polishing of existing denture                        80
OT01 Design treatment                                                 500
OT02 Brace placement                                                 3000
OT03 Wire insertion                                                  1000
OT04 Brace Adjustments                                                100

37 rows selected.

SQL>
SQL> SELECT
  2      service_code,
  3      service_desc,
  4      to_char(service_stdfee, '$999,999.99') AS high_service_fee
  5  FROM
  6      mns.service
  7  WHERE
  8      service_stdfee > (
  9          SELECT
 10      AVG(service_stdfee)
 11          FROM
 12      mns.service
 13      )
 14  ORDER BY
 15      service_stdfee DESC,
 16      service_code ASC;

SERV SERVICE_DESC                                         HIGH_SERVICE
---- ---------------------------------------------------- ------------
OT02 Brace placement                                       $3,000.00
DC02 Full crown - CEREC same day crown                     $1,500.00
```

```
DC03 Full crown                                          $1,200.00
OT03 Wire insertion                                      $1,000.00
DT04 Denture fitting                                       $800.00
EX03 Dental bone grafts                                    $500.00
OT01 Design treatment                                      $500.00
EX02 Surgical removal of a tooth                           $425.00

8 rows selected.

SQL>
SQL> SELECT
  2     AVG(service_stdfee)
  3  FROM
  4     mns.service;

AVG(SERVICE_STDFEE)
-------------------
         360.486486

SQL>
SQL> /*2(d)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     appt_no,
  3     appt_datetime,
  4     patient_no,
  5     patient_fname
  6     || ' '
  7     || patient_lname AS patient_full_name,
  8     lpad(to_char(appt_total_cost, '$99999.99'),
  9          25,
 10          ' ')   AS appointment_total_cost
 11  FROM
 12     (
 13         SELECT
 14     a.appt_no,
 15     a.appt_datetime,
 16     p.patient_no,
 17     p.patient_fname,
 18     p.patient_lname,
 19     SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity,
 20     0)) AS appt_total_cost
 21         FROM
 22             mns.appointment a
 23     JOIN mns.patient    p
 24     ON a.patient_no = p.patient_no
 25     LEFT JOIN mns.apptservice_item asi
 26     ON a.appt_no = asi.appt_no
 27     LEFT JOIN mns.service  s
 28     ON asi.service_code = s.service_code
 29     LEFT JOIN mns.item  i
 30     ON asi.item_id = i.item_id
 31         GROUP BY
```

```
32       a.appt_no,
33       a.appt_datetime,
34       p.patient_no,
35       p.patient_fname,
36       p.patient_lname
37     ) ts
38   WHERE
39     ts.appt_total_cost = (
40         SELECT
41       MAX(sub.appt_total_cost)
42         FROM
43       (
44           SELECT
45        a.appt_no,
46        SUM(nvl(s.service_stdfee, 0) + nvl(i.item_stdcost * asi.as_item_quantity
47        , 0)) AS appt_total_cost
48           FROM
49        mns.appointment        a
50        LEFT JOIN mns.apptservice_item asi
51        ON a.appt_no = asi.appt_no
52        LEFT JOIN mns.service  s
53        ON asi.service_code = s.service_code
54        LEFT JOIN mns.item  i
55        ON asi.item_id = i.item_id
56           GROUP BY
57        a.appt_no
58       ) sub
59     )
60   ORDER BY
61     appt_no;
```

```
   APPT_NO APPT_DATE PATIENT_NO PATIENT_FULL_NAME                                              APPOINTMENT_TOTAL_COST
----------- --------- ---------- -------------------------------------------------------------- ------------------------------------------
-----------------------------------------------------------
        22 14/SEP/23         13 Rebecca Ricardo                                                                $8070.00
```

```
SQL>
SQL>
SQL> -- where join mns.apptservcie aps ;
SQL>
SQL> /*2(e)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2      s.service_code,
  3      s.service_desc   AS "Service_Description",
  4      s.service_stdfee AS "Service_Standard_Fee",
  5      a.apptserv_fee   AS "Appointment_Service_Fee",
  6      round(AVG(a.apptserv_fee) - s.service_stdfee,
  7          2)   AS "Service_Fee_Differential"
  8   FROM
  9          mns.service s
 10      JOIN mns.appt_serv a
 11      ON s.service_code = a.service_code
```

```
 12   GROUP BY
 13     s.service_code,
 14     s.service_desc,
 15     s.service_stdfee,
 16     a.apptserv_fee
 17   ORDER BY
 18     s.service_code;
```

```
SERV Service_Description                                    Service_Standard_Fee Appointment_Service_Fee Service_Fee_Differential
---- ---------------------------------------------------- -------------------- ----------------------- ------------------------
D001 Oral examination                                                       65                      50                      -15
D001 Oral examination                                                       65                      60                       -5
D001 Oral examination                                                       65                      65                        0
D002 Extended Consultation - 30 mins or more                               75                      75                        0
D002 Extended Consultation - 30 mins or more                               75                      80                        5
DC01 Preparation for crown                                                 175                     175                        0
DC03 Full crown                                                           1200                    1250                       50
DF01 Anterior Filling (front teeth)                                        175                     175                        0
EX01 Removal of a tooth or part thereof                                    175                     190                       15
EX02 Surgical removal of a tooth                                           425                     425                        0
EX03 Dental bone grafts                                                    500                     525                       25
OT01 Design treatment                                                      500                     520                       20
OT02 Brace placement                                                      3000                    2700                     -300
OT03 Wire insertion                                                       1000                     900                     -100
P001 Removal of plaque and / or stain                                       90                      75                      -15
P001 Removal of plaque and / or stain                                       90                      80                      -10
P001 Removal of plaque and / or stain                                       90                      85                       -5
P001 Removal of plaque and / or stain                                       90                      90                        0
P002 Removal of calculus                                                   165                     125                      -40
P002 Removal of calculus                                                   165                     140                      -25
P002 Removal of calculus                                                   165                     150                      -15
P003 Fissure sealing                                                        58                      55                       -3
PG01 Treatment of acute periodontal infection                              170                     160                      -10
PG01 Treatment of acute periodontal infection                              170                     180                       10
RC01 Preparation of root canal - one canal                                 225                     225                        0
RC02 Preparation of root canal - each additional canal                     120                     200                       80
RC03 Root canal obturation - one canal                                     265                     265                        0
RC04 Root canal obturation - each additional canal                         120                     240                      120
X001 Intraoral radiograph - per x-ray                                       45                      45                        0
X001 Intraoral radiograph - per x-ray                                       45                      80                       35

30 rows selected.

SQL>
SQL>
SQL>
SQL>
SQL> /*2(f)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2     p.patient_no,
  3     p.patient_fname
  4     ||' '||
  5     || p.patient_lname        AS patientname,
```

```
 6    floor(months_between(sysdate, p.patient_dob) / 12) AS currentage,
 7    COUNT(a.appt_no)        AS numappts,
 8    lpad(to_char(round((COUNT(
 9        CASE
10     WHEN a.appt_prior_apptno > 0 THEN
11         1
12        END
13    ) / COUNT(a.appt_no)) * 100,
14        1),
15        '990.0'),
16       8)
17    || '%'         AS followups
18  FROM
19        mns.patient p
20    JOIN mns.appointment a
21    ON p.patient_no = a.patient_no
22  GROUP BY
23    p.patient_no,
24    p.patient_fname,
25    p.patient_lname,
26    p.patient_dob;
```

```
PATIENT_NO PATIENTNAME                                                  CURRENTAGE   NUMAPPTS FOLLOWUPS
---------- ------------------------------------------------------------ ---------- ---------- -------------------------------
         7 Charli Hansman                                                        7          1    0.0%
         9 Ashley Soares                                                        48          1    0.0%
        13 Rebecca Ricardo                                                      38          2   50.0%
        11 Joshua McBurney                                                       6          2    0.0%
        15 Anthony Raggatt                                                      26          1    0.0%
         3 Darcy                                                                72          2   50.0%
         4 Marie-Rose Johnson                                                   13          1    0.0%
         8 Alice Bayldon                                                         6          2   50.0%
        12 Thalia McBurney                                                       4          2    0.0%
        14 Jonathan Jageurs                                                     62          2   50.0%
         1 Jake Auld                                                            56          3   66.7%
         2   Roberts                                                            27          1    0.0%
         5 Sally Johnson                                                        10          1    0.0%
         6 Gemma Hansman                                                        43          1    0.0%
        16 Lincoln Hansman                                                      51          1    0.0%
        10 Imogen                                                                9          2   50.0%

16 rows selected.

SQL>
SQL>
SQL> /*2(g)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT FOR THIS PART HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL>
SQL> SELECT
  2    p.provider_code AS pcode,
  3    lpad(
  4        CASE
  5     WHEN COUNT(a.appt_no) = 0 THEN
```

```
 6            '-'
 7        ELSE
 8            to_char(COUNT(a.appt_no))
 9          END,
10          10) AS numberappts,
11      lpad(
12          CASE
13      WHEN SUM(asi.apptserv_fee) IS NULL THEN
14          '-'
15        ELSE
16          '$'
17          || floor(SUM(asi.apptserv_fee))
18          || '.'
19          || lpad(mod(round(SUM(asi.apptserv_fee) * 100),
20          100),
21          2,
22          '0')
23          END,
24          10) AS totalfees,
25      lpad(
26          CASE
27      WHEN SUM(att.as_item_quantity) IS NULL THEN
28          '-'
29        ELSE
30          to_char(SUM(att.as_item_quantity))
31          END,
32          7)  AS noitems
33  FROM
34    mns.provider        p
35    LEFT JOIN mns.appointment a
36    ON p.provider_code = a.provider_code
37        AND a.appt_datetime BETWEEN TO_DATE('10-SEP-2023 09:00:00', 'DD-MON-YYYY HH24:MI:SS'
38        ) AND TO_DATE('14-SEP-2023 17:00:00', 'DD-MON-YYYY HH24:MI:SS')
39    LEFT JOIN mns.appt_serv asi
40    ON asi.appt_no = a.appt_no
41    LEFT JOIN mns.apptservice_item att
42    ON asi.appt_no = att.appt_no
43  GROUP BY
44    p.provider_code
45  ORDER BY
46    p.provider_code;
```

PCODE	NUMBERAPPTS	TOTALFEES	NOITEMS
AST001	4	$400.00	-
AST002	-	-	-
END001	6	$1515.00	14
GEN001	-	-	-
GEN002	6	$500.00	-
GEN003	-	-	-
ORS001	3	$340.00	10
ORT001	10	$15000.00	88
PED001	4	$480.00	4
PED002	8	$700.00	8
PER001	2	$360.00	3
PER002	2	$320.00	2

```
PRO001              2                                    $1425.00                                    -

13 rows selected.

SQL>
SQL> --============================= END RUN =======================================---
SQL> set echo off
```

TASK 3 Marking

```
SQL> --=========================== START RUN ======================================---
SQL> -- Running T3-mns-json.sql
SQL>
SQL> @T3-mns-json.sql
SQL> --*****PLEASE ENTER YOUR DETAILS BELOW*****
SQL> --T3-mns-json.sql
SQL>
SQL> --Student ID: 34194037
SQL> --Student Name: Sachin Shivaramaiah
SQL> --Unit Code: FIT9132
SQL> --Applied Class No: 02_OnCampus
SQL>
SQL> /* Comments for your marker:
SQL>
SQL>
SQL>
SQL>
SQL> */
SQL>
SQL> /*3(a)*/
SQL> -- PLEASE PLACE REQUIRED SQL SELECT STATEMENT TO GENERATE
SQL> -- THE COLLECTION OF JSON DOCUMENTS HERE
SQL> -- ENSURE that your query is formatted and has a semicolon
SQL> -- (;) at the end of this answer
SQL>
SQL> SELECT
  2    JSON_OBJECT(
  3        '_id' VALUE a.appt_no,
  4        'datetime' VALUE to_char(a.appt_datetime, 'dd/mm/yyyy HH24:MI'),
  5        'provider_code' VALUE p.provider_code,
  6        'provider_name' VALUE nvl(p.provider_title, '')
  7      || ' '
  8      || nvl(p.provider_fname, '')             Missing trim
  9      || ' '
 10      || nvl(p.provider_lname, ''),
 11        'item_totalcost' VALUE SUM(i.item_stdcost * asi.as_item_quantity),
 12        'no_of_items' VALUE COUNT(asi.item_id),
 13        'items' VALUE JSON_ARRAYAGG(
 14      JSON_OBJECT(
 15        'id' VALUE i.item_id,
 16        'desc' VALUE i.item_desc,
 17        'standardcost' VALUE i.item_stdcost,
 18        'quantity' VALUE asi.as_item_quantity
 19      )
 20        ORDER BY
 21      i.item_id)
 22    ) || ',' AS json_output
 23  FROM
 24    mns.appointment a
 25  JOIN mns.apptservice_item asi           Missing join appt_serv
 26    ON a.appt_no = asi.appt_no
 27  JOIN mns.item i
 28    ON asi.item_id = i.item_id
 29  JOIN mns.provider p
 30    ON a.provider_code = p.provider_code
 31  WHERE
```

Assignment 2B Feedback

```
32    asi.as_item_quantity > 0
33  GROUP BY
34    a.appt_no,
35    a.appt_datetime,
36    p.provider_code,
37    nvl(p.provider_title, ''),
38    nvl(p.provider_fname, ''),
39    nvl(p.provider_lname, '')
40  ORDER BY
41    a.appt_no;
```

JSON_OUTPUT

{"_id":1,"datetime":"08/09/2023 10:00","provider_code":"ORS001","provider_name":"Dr Jessica Jones","item_totalcost":80,"no_of_items":2,"items":[{"id":20,"desc":"Phospor imaging plate","standardcost":75,"quantity":1},{"id":21,"desc":"Clinasept Film","standardcost":5,"quantity":1}]},
{"_id":3,"datetime":"08/09/2023 12:00","provider_code":"ORS001","provider_name":"Dr Jessica Jones","item_totalcost":27,"no_of_items":5,"items":[{"id":1,"desc":"Paper tips","standardcost":1,"quantity":5},{"id":4,"desc":"Irrigation Solution 2% Chlorhexidine","standardcost":9,"quantity":1},{"id":7,"desc":"Portalimas sponges 1 cm","standardcost":0.5,"quantity":10},{"id":8,"desc":"Irrigation Needle and Syringe","standardcost":2,"quantity":1},{"id":15,"desc":"Absorbable suture","standardcost":3,"quantity":2}]},
{"_id":5,"datetime":"08/09/2023 16:00","provider_code":"GEN001","provider_name":"Dr Bruce Striplin","item_totalcost":75,"no_of_items":1,"items":[{"id":20,"desc":"Phospor imaging plate","standardcost":75,"quantity":1}]},
{"_id":7,"datetime":"08/09/2023 12:00","provider_code":"GEN002","provider_name":"Dr Amalia Morris","item_totalcost":78,"no_of_items":1,"items":[{"id":18,"desc":"Fluid composite","standardcost":78,"quantity":1}]},
{"_id":8,"datetime":"08/09/2023 12:00","provider_code":"END001","provider_name":"Dr Mark Stanton","item_totalcost":26,"no_of_items":3,"items":[{"id":4,"desc":"Irrigation Solution 2% Chlorhexidine","standardcost":9,"quantity":1},{"id":6,"desc":"Universal Clamp","standardcost":15,"quantity":1},{"id":8,"desc":"Irrigation Needle and Syringe","standardcost":2,"quantity":1}]},
{"_id":9,"datetime":"11/09/2023 15:00","provider_code":"ORS001","provider_name":"Dr Jessica Jones","item_totalcost":5,"no_of_items":1,"items":[{"id":7,"desc":"Portalimas sponges 1 cm","standardcost":0.5,"quantity":10}]},
{"_id":10,"datetime":"11/09/2023 09:15","provider_code":"PER002","provider_name":"Dr Joseph Hazelton","item_totalcost":8,"no_of_items":2,"items":[{"id":2,"desc":"Sodium hypochlorite 5.25%","standardcost":6,"quantity":1},{"id":8,"desc":"Irrigation Needle and Syringe","standardcost":2,"quantity":1}]},
{"_id":11,"datetime":"11/09/2023 15:00","provider_code":"PED002","provider_name":"Dr Lee","item_totalcost":80,"no_of_items":2,"items":[{"id":20,"desc":"Phospor imaging plate","standardcost":75,"quantity":1},{"id":21,"desc":"Clinasept Film","standardcost":5,"quantity":1}]},
{"_id":18,"datetime":"14/09/2023 10:00","provider_code":"PER001","provider_name":"Dr April Manahan","item_totalcost":10,"no_of_items":2,"items":[{"id":2,"desc":"Sodium hypochlorite 5.25%","standardcost":6,"quantity":1},{"id":8,"desc":"Irrigation Needle and Syringe","standardcost":2,"quantity":2}]},
{"_id":19,"datetime":"14/09/2023 14:00","provider_code":"END001","provider_name":"Dr Mark Stanton","item_totalcost":60,"no_of_items":3,"items":[{"id":1,"desc":"Paper tips","standardcost":1,"quantity":5},{"id":5,"desc":"Sterile K NiTi files","standardcost":7,"quantity":1},{"id":16,"desc":"Universal composite","standardcost":48,"quantity":1}]},
{"_id":20,"datetime":"14/09/2023 09:00","provider_code":"PED001","provider_name":"Dr Kevin Barr","item_totalcost":60,"no_of_items":2,"items":[{"id":22,"desc":"Porcelain Etch","standardcost":35,"quantity":1},{"id":23,"desc":"Silane","standardcost":25,"quantity":1}]},
{"_id":22,"datetime":"14/09/2023 10:00","provider_code":"ORT001","provider_name":"Dr Gerry Elliott","item_totalcost":70,"no_of_items":4,"items":[{"id":9,"desc":"Metal Bracket","standardcost":1.5,"quantity":20},{"id":10,"desc":"Molar mouth tube","standardcost":2,"quantity":12},{"id":11,"desc":"Archwire","standardcost":2,"quantity":4},{"id":12,"desc":"Curved lingual button","standardcost":1,"quantity":8}]},

12 rows selected.

```
SQL>
SQL> ------------------------------ END RUN ----------------------------------------
SQL> set echo off
```

Task 3 MongoDB

```
// *****PLEASE ENTER YOUR DETAILS BELOW*****
// T3-mns-mongo.mongodb.js

// Student ID:
// Student Name:
// Unit Code:
// Applied Class No:

//Comments for your marker:

// =====================================================================
// Do not modify or remove any of the comments in this document (items marked with //)
// =====================================================================

//Use (connect to) your database - you MUST update xyz001
//with your authcate username

use("sshi0068");

//db.version();
// MARKER: db.getCollectionNames;
db.getCollectionNames();

// 3(b)
// PLEASE PLACE REQUIRED MONGODB COMMAND TO CREATE THE COLLECTION HERE
// YOU MAY PICK ANY COLLECTION NAME
// ENSURE that your query is formatted and has a semicolon
// (;) at the end of this answer

// Drop collection
// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.drop();
//db.collectionmns.insertOne(
//{ "_id": 1, "datetime": "08/09/2023 10:00", "provider_code": "ORS001", "provider_name": "Dr Jessica Jones", "item_totalcost": 80, "no_of_i
tems": 2, "items": [{ "id": 20, "desc": "Phospor imaging plate", "standardcost": 75, "quantity": 1 }, { "id": 21, "desc": "Clinasept Film",
"standardcost": 5, "quantity": 1 }] }
//)
// Create collection and insert documents
//db.collectionmns.drop();
// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.insertMany(
    [
        { "_id": 1, "datetime": "08/09/2023 10:00", "provider_code": "ORS001", "provider_name": "Dr Jessica Jones", "item_totalcost": 80, "n
o_of_items": 2, "items": [{ "id": 20, "desc": "Phospor imaging plate", "standardcost": 75, "quantity": 1 }, { "id": 21, "desc": "Clinasept F
ilm", "standardcost": 5, "quantity": 1 }] },
        { "_id": 3, "datetime": "08/09/2023 12:00", "provider_code": "ORS001", "provider_name": "Dr Jessica Jones", "item_totalcost": 27, "n
o_of_items": 5, "items": [{ "id": 1, "desc": "Paper tips", "standardcost": 1, "quantity": 5 }, { "id": 4, "desc": "Irrigation Solution 2% Ch
lorhexidine", "standardcost": 9, "quantity": 1 }, { "id": 7, "desc": "Portalimas sponges 1 cm", "standardcost": 0.5, "quantity": 10 }, { "id
": 8, "desc": "Irrigation Needle and Syringe", "standardcost": 2, "quantity": 1 }, { "id": 15, "desc": "Absorbable suture", "standardcost":
3, "quantity": 2 }] },
        { "_id": 5, "datetime": "08/09/2023 16:00", "provider_code": "GEN001", "provider_name": "Dr Bruce Striplin", "item_totalcost": 75, "
no_of_items": 1, "items": [{ "id": 20, "desc": "Phospor imaging plate", "standardcost": 75, "quantity": 1 }] },
        { "_id": 7, "datetime": "08/09/2023 12:00", "provider_code": "GEN002", "provider_name": "Dr Amalia Morris", "item_totalcost": 78, "n
o_of_items": 1, "items": [{ "id": 18, "desc": "Fluid composite", "standardcost": 78, "quantity": 1 }] },
```

```
        { "_id": 8, "datetime": "08/09/2023 12:00", "provider_code": "END001", "provider_name": "Dr Mark Stanton", "item_totalcost": 26, "no
_of_items": 3, "items": [{ "id": 4, "desc": "Irrigation Solution 2% Chlorhexidine", "standardcost": 9, "quantity": 1 }, { "id": 6, "desc": "
Universal Clamp", "standardcost": 15, "quantity": 1 }, { "id": 8, "desc": "Irrigation Needle and Syringe", "standardcost": 2, "quantity": 1
}] },
        { "_id": 9, "datetime": "11/09/2023 15:00", "provider_code": "ORS001", "provider_name": "Dr Jessica Jones", "item_totalcost": 5, "no
_of_items": 1, "items": [{ "id": 7, "desc": "Portalimas sponges 1 cm", "standardcost": 0.5, "quantity": 10 }] },
        { "_id": 10, "datetime": "11/09/2023 09:15", "provider_code": "PER002", "provider_name": "Dr Joseph Hazelton", "item_totalcost": 8,
"no_of_items": 2, "items": [{ "id": 2, "desc": "Sodium hypochlorite 5.25%", "standardcost": 6, "quantity": 1 }, { "id": 8, "desc": "Irrigati
on Needle and Syringe", "standardcost": 2, "quantity": 1 }] },
        { "_id": 11, "datetime": "11/09/2023 15:00", "provider_code": "PED002", "provider_name": "Dr  Lee", "item_totalcost": 80, "no_of_ite
ms": 2, "items": [{ "id": 20, "desc": "Phospor imaging plate", "standardcost": 75, "quantity": 1 }, { "id": 21, "desc": "Clinasept Film", "s
tandardcost": 5, "quantity": 1 }] },
        { "_id": 18, "datetime": "14/09/2023 10:00", "provider_code": "PER001", "provider_name": "Dr April Manahan", "item_totalcost": 10, "
no_of_items": 2, "items": [{ "id": 2, "desc": "Sodium hypochlorite 5.25%", "standardcost": 6, "quantity": 1 }, { "id": 8, "desc": "Irrigatio
n Needle and Syringe", "standardcost": 2, "quantity": 2 }] },
        { "_id": 19, "datetime": "14/09/2023 14:00", "provider_code": "END001", "provider_name": "Dr Mark Stanton", "item_totalcost": 60, "n
o_of_items": 3, "items": [{ "id": 1, "desc": "Paper tips", "standardcost": 1, "quantity": 5 }, { "id": 5, "desc": "Sterile K NiTi files", "s
tandardcost": 7, "quantity": 1 }, { "id": 16, "desc": "Universal composite", "standardcost": 48, "quantity": 1 }] },
        { "_id": 20, "datetime": "14/09/2023 09:00", "provider_code": "PED001", "provider_name": "Dr Kevin Barr", "item_totalcost": 60, "no_
of_items": 2, "items": [{ "id": 22, "desc": "Porcelain Etch", "standardcost": 35, "quantity": 1 }, { "id": 23, "desc": "Silane", "standardco
st": 25, "quantity": 1 }] },
        { "_id": 22, "datetime": "14/09/2023 10:00", "provider_code": "ORT001", "provider_name": "Dr Gerry Elliott", "item_totalcost": 70, "
no_of_items": 4, "items": [{ "id": 9, "desc": "Metal Bracket", "standardcost": 1.5, "quantity": 20 }, { "id": 10, "desc": "Molar mouth tube"
, "standardcost": 2, "quantity": 12 }, { "id": 11, "desc": "Archwire", "standardcost": 2, "quantity": 4 }, { "id": 12, "desc": "Curved lingu
al button", "standardcost": 1, "quantity": 8 }] }


    ]

);


// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.find();
// List all documents you added


// 3(c)
// PLEASE PLACE REQUIRED MONGODB COMMAND/S FOR THIS PART HERE
// ENSURE that your query is formatted and has a semicolon
// (;) at the end of this answer
// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.find({
    "$or": [
        { "no_of_items": { "$gt": 2 } },
        { "item_totalcost": { "$gt": 50 } }
    ]
});


// 3(d)
// PLEASE PLACE REQUIRED MONGODB COMMAND/S FOR THIS PART HERE
// ENSURE that your query is formatted and has a semicolon
// (;) at the end of this answer
// MISSING below ; ADDED BY MARKER
```

```
use("sshi0068");
db.collectionmns.updateMany(
    { "items.id": 1 },
    { "$set": { "items.$.desc": "Paper points" } }
);



// Illustrate/confirm changes made
// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.find({ "items.id": 1 });

// 3(e)
// PLEASE PLACE REQUIRED MONGODB COMMAND/S FOR THIS PART HERE
// ENSURE that your query is formatted and has a semicolon
// (;) at the end of this answer
// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.updateOne(
    { _id: 20 },
    {
        $push: {
            items: {
                $each: [
                    {
                        "id": 3,
                        "desc": "EDTA Cleansing Gel 17%",
                        "standardcost": 8,
                        "quantity": 1
                    },
                    {
                        "id": 4,
                        "desc": "Irrigation Solution 2% Chlorhexidine",
                        "standardcost": 9,
                        "quantity": 1
                    },
                    {
                        "id": 8,
                        "desc": "Irrigation Needle and Syringe",
                        "standardcost": 2,
                        "quantity": 2
                    }
                ]
            }
        }
    }
);

// MISSING below ; ADDED BY MARKER
use("sshi0068");
db.collectionmns.find({ _id: 20 }, { items: 1, _id: 1 });
// Illustrate/confirm changes made
```

Missing update on no_of_items and items_totalcost

```
>>=============================== Start Mongo DB run of script ===============================
// Student ID:
// Student Name:
// Unit Code:
// Applied Class No:

[]
>> Task 3b -----------------------------------------------------------------------
false
>> Create collection and insert documents
{
  acknowledged: true,
  insertedIds: {
    '0': 1,
    '1': 3,
    '2': 5,
    '3': 7,
    '4': 8,
    '5': 9,
    '6': 10,
    '7': 11,
    '8': 18,
    '9': 19,
    '10': 20,
    '11': 22
  }
}
[
  {
    _id: 1,
    datetime: '08/09/2023 10:00',
    provider_code: 'ORS001',
    provider_name: 'Dr Jessica Jones',
    item_totalcost: 80,
    no_of_items: 2,
    items: [
      {
        id: 20,
        desc: 'Phospor imaging plate',
        standardcost: 75,
        quantity: 1
      },
      {
        id: 21,
        desc: 'Clinasept Film',
        standardcost: 5,
        quantity: 1
      }
    ]
  },
  {
    _id: 3,
    datetime: '08/09/2023 12:00',
    provider_code: 'ORS001',
    provider_name: 'Dr Jessica Jones',
    item_totalcost: 27,
```

```
  no_of_items: 5,
  items: [
    {
      id: 1,
      desc: 'Paper tips',
      standardcost: 1,
      quantity: 5
    },
    {
      id: 4,
      desc: 'Irrigation Solution 2% Chlorhexidine',
      standardcost: 9,
      quantity: 1
    },
    {
      id: 7,
      desc: 'Portalimas sponges 1 cm',
      standardcost: 0.5,
      quantity: 10
    },
    {
      id: 8,
      desc: 'Irrigation Needle and Syringe',
      standardcost: 2,
      quantity: 1
    },
    {
      id: 15,
      desc: 'Absorbable suture',
      standardcost: 3,
      quantity: 2
    }
  ]
},
{
  _id: 5,
  datetime: '08/09/2023 16:00',
  provider_code: 'GEN001',
  provider_name: 'Dr Bruce Striplin',
  item_totalcost: 75,
  no_of_items: 1,
  items: [
    {
      id: 20,
      desc: 'Phospor imaging plate',
      standardcost: 75,
      quantity: 1
    }
  ]
},
{
  _id: 7,
  datetime: '08/09/2023 12:00',
  provider_code: 'GEN002',
  provider_name: 'Dr Amalia Morris',
  item_totalcost: 78,
```

```
    no_of_items: 1,
    items: [
      {
        id: 18,
        desc: 'Fluid composite',
        standardcost: 78,
        quantity: 1
      }
    ]
  },
  {
    _id: 8,
    datetime: '08/09/2023 12:00',
    provider_code: 'END001',
    provider_name: 'Dr Mark Stanton',
    item_totalcost: 26,
    no_of_items: 3,
    items: [
      {
        id: 4,
        desc: 'Irrigation Solution 2% Chlorhexidine',
        standardcost: 9,
        quantity: 1
      },
      {
        id: 6,
        desc: 'Universal Clamp',
        standardcost: 15,
        quantity: 1
      },
      {
        id: 8,
        desc: 'Irrigation Needle and Syringe',
        standardcost: 2,
        quantity: 1
      }
    ]
  },
  {
    _id: 9,
    datetime: '11/09/2023 15:00',
    provider_code: 'ORS001',
    provider_name: 'Dr Jessica Jones',
    item_totalcost: 5,
    no_of_items: 1,
    items: [
      {
        id: 7,
        desc: 'Portalimas sponges 1 cm',
        standardcost: 0.5,
        quantity: 10
      }
    ]
  },
  {
    _id: 10,
```

```
    datetime: '11/09/2023 09:15',
    provider_code: 'PER002',
    provider_name: 'Dr Joseph Hazelton',
    item_totalcost: 8,
    no_of_items: 2,
    items: [
      {
        id: 2,
        desc: 'Sodium hypochlorite 5.25%',
        standardcost: 6,
        quantity: 1
      },
      {
        id: 8,
        desc: 'Irrigation Needle and Syringe',
        standardcost: 2,
        quantity: 1
      }
    ]
  },
  {
    _id: 11,
    datetime: '11/09/2023 15:00',
    provider_code: 'PED002',
    provider_name: 'Dr  Lee',
    item_totalcost: 80,
    no_of_items: 2,
    items: [
      {
        id: 20,
        desc: 'Phospor imaging plate',
        standardcost: 75,
        quantity: 1
      },
      {
        id: 21,
        desc: 'Clinasept Film',
        standardcost: 5,
        quantity: 1
      }
    ]
  },
  {
    _id: 18,
    datetime: '14/09/2023 10:00',
    provider_code: 'PER001',
    provider_name: 'Dr April Manahan',
    item_totalcost: 10,
    no_of_items: 2,
    items: [
      {
        id: 2,
        desc: 'Sodium hypochlorite 5.25%',
        standardcost: 6,
        quantity: 1
      },
```

```
    {
      id: 8,
      desc: 'Irrigation Needle and Syringe',
      standardcost: 2,
      quantity: 2
    }
  ]
},
{
  _id: 19,
  datetime: '14/09/2023 14:00',
  provider_code: 'END001',
  provider_name: 'Dr Mark Stanton',
  item_totalcost: 60,
  no_of_items: 3,
  items: [
    {
      id: 1,
      desc: 'Paper tips',
      standardcost: 1,
      quantity: 5
    },
    {
      id: 5,
      desc: 'Sterile K NiTi files',
      standardcost: 7,
      quantity: 1
    },
    {
      id: 16,
      desc: 'Universal composite',
      standardcost: 48,
      quantity: 1
    }
  ]
},
{
  _id: 20,
  datetime: '14/09/2023 09:00',
  provider_code: 'PED001',
  provider_name: 'Dr Kevin Barr',
  item_totalcost: 60,
  no_of_items: 2,
  items: [
    {
      id: 22,
      desc: 'Porcelain Etch',
      standardcost: 35,
      quantity: 1
    },
    {
      id: 23,
      desc: 'Silane',
      standardcost: 25,
      quantity: 1
    }
```

```
    ]
  },
  {
    _id: 22,
    datetime: '14/09/2023 10:00',
    provider_code: 'ORT001',
    provider_name: 'Dr Gerry Elliott',
    item_totalcost: 70,
    no_of_items: 4,
    items: [
      {
        id: 9,
        desc: 'Metal Bracket',
        standardcost: 1.5,
        quantity: 20
      },
      {
        id: 10,
        desc: 'Molar mouth tube',
        standardcost: 2,
        quantity: 12
      },
      {
        id: 11,
        desc: 'Archwire',
        standardcost: 2,
        quantity: 4
      },
      {
        id: 12,
        desc: 'Curved lingual button',
        standardcost: 1,
        quantity: 8
      }
    ]
  }
]
>> List all documents you added
>> Task 3c ------------------------------------------------------------------------
[
  {
    _id: 1,
    datetime: '08/09/2023 10:00',
    provider_code: 'ORS001',
    provider_name: 'Dr Jessica Jones',
    item_totalcost: 80,
    no_of_items: 2,
    items: [
      {
        id: 20,
        desc: 'Phospor imaging plate',
        standardcost: 75,
        quantity: 1
      },
      {
        id: 21,
```

```
        desc: 'Clinasept Film',
        standardcost: 5,
        quantity: 1
      }
    ]
  },
  {
    _id: 3,
    datetime: '08/09/2023 12:00',
    provider_code: 'ORS001',
    provider_name: 'Dr Jessica Jones',
    item_totalcost: 27,
    no_of_items: 5,
    items: [
      {
        id: 1,
        desc: 'Paper tips',
        standardcost: 1,
        quantity: 5
      },
      {
        id: 4,
        desc: 'Irrigation Solution 2% Chlorhexidine',
        standardcost: 9,
        quantity: 1
      },
      {
        id: 7,
        desc: 'Portalimas sponges 1 cm',
        standardcost: 0.5,
        quantity: 10
      },
      {
        id: 8,
        desc: 'Irrigation Needle and Syringe',
        standardcost: 2,
        quantity: 1
      },
      {
        id: 15,
        desc: 'Absorbable suture',
        standardcost: 3,
        quantity: 2
      }
    ]
  },
  {
    _id: 5,
    datetime: '08/09/2023 16:00',
    provider_code: 'GEN001',
    provider_name: 'Dr Bruce Striplin',
    item_totalcost: 75,
    no_of_items: 1,
    items: [
      {
        id: 20,
```

```
        desc: 'Phospor imaging plate',
        standardcost: 75,
        quantity: 1
      }
    ]
  },
  {
    _id: 7,
    datetime: '08/09/2023 12:00',
    provider_code: 'GEN002',
    provider_name: 'Dr Amalia Morris',
    item_totalcost: 78,
    no_of_items: 1,
    items: [
      {
        id: 18,
        desc: 'Fluid composite',
        standardcost: 78,
        quantity: 1
      }
    ]
  },
  {
    _id: 8,
    datetime: '08/09/2023 12:00',
    provider_code: 'END001',
    provider_name: 'Dr Mark Stanton',
    item_totalcost: 26,
    no_of_items: 3,
    items: [
      {
        id: 4,
        desc: 'Irrigation Solution 2% Chlorhexidine',
        standardcost: 9,
        quantity: 1
      },
      {
        id: 6,
        desc: 'Universal Clamp',
        standardcost: 15,
        quantity: 1
      },
      {
        id: 8,
        desc: 'Irrigation Needle and Syringe',
        standardcost: 2,
        quantity: 1
      }
    ]
  },
  {
    _id: 11,
    datetime: '11/09/2023 15:00',
    provider_code: 'PED002',
    provider_name: 'Dr  Lee',
    item_totalcost: 80,
```

```
  no_of_items: 2,
  items: [
      {
        id: 20,
        desc: 'Phospor imaging plate',
        standardcost: 75,
        quantity: 1
      },
      {
        id: 21,
        desc: 'Clinasept Film',
        standardcost: 5,
        quantity: 1
      }
  ]
},
{
  _id: 19,
  datetime: '14/09/2023 14:00',
  provider_code: 'END001',
  provider_name: 'Dr Mark Stanton',
  item_totalcost: 60,
  no_of_items: 3,
  items: [
      {
        id: 1,
        desc: 'Paper tips',
        standardcost: 1,
        quantity: 5
      },
      {
        id: 5,
        desc: 'Sterile K NiTi files',
        standardcost: 7,
        quantity: 1
      },
      {
        id: 16,
        desc: 'Universal composite',
        standardcost: 48,
        quantity: 1
      }
  ]
},
{
  _id: 20,
  datetime: '14/09/2023 09:00',
  provider_code: 'PED001',
  provider_name: 'Dr Kevin Barr',
  item_totalcost: 60,
  no_of_items: 2,
  items: [
      {
        id: 22,
        desc: 'Porcelain Etch',
        standardcost: 35,
```

```
      quantity: 1
    },
    {
      id: 23,
      desc: 'Silane',
      standardcost: 25,
      quantity: 1
    }
  ]
},
{
  _id: 22,
  datetime: '14/09/2023 10:00',
  provider_code: 'ORT001',
  provider_name: 'Dr Gerry Elliott',
  item_totalcost: 70,
  no_of_items: 4,
  items: [
    {
      id: 9,
      desc: 'Metal Bracket',
      standardcost: 1.5,
      quantity: 20
    },
    {
      id: 10,
      desc: 'Molar mouth tube',
      standardcost: 2,
      quantity: 12
    },
    {
      id: 11,
      desc: 'Archwire',
      standardcost: 2,
      quantity: 4
    },
    {
      id: 12,
      desc: 'Curved lingual button',
      standardcost: 1,
      quantity: 8
    }
  ]
}
]
>> Task 3d -------------------------------------------------------------------
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 2,
  modifiedCount: 2,
  upsertedCount: 0
}
>> Illustrate/confirm changes made
[
  {
```

```
  _id: 3,
  datetime: '08/09/2023 12:00',
  provider_code: 'ORS001',
  provider_name: 'Dr Jessica Jones',
  item_totalcost: 27,
  no_of_items: 5,
  items: [
    {
      id: 1,
      desc: 'Paper points',
      standardcost: 1,
      quantity: 5
    },
    {
      id: 4,
      desc: 'Irrigation Solution 2% Chlorhexidine',
      standardcost: 9,
      quantity: 1
    },
    {
      id: 7,
      desc: 'Portalimas sponges 1 cm',
      standardcost: 0.5,
      quantity: 10
    },
    {
      id: 8,
      desc: 'Irrigation Needle and Syringe',
      standardcost: 2,
      quantity: 1
    },
    {
      id: 15,
      desc: 'Absorbable suture',
      standardcost: 3,
      quantity: 2
    }
  ]
},
{
  _id: 19,
  datetime: '14/09/2023 14:00',
  provider_code: 'END001',
  provider_name: 'Dr Mark Stanton',
  item_totalcost: 60,
  no_of_items: 3,
  items: [
    {
      id: 1,
      desc: 'Paper points',
      standardcost: 1,
      quantity: 5
    },
    {
      id: 5,
      desc: 'Sterile K NiTi files',
```

```
            standardcost: 7,
            quantity: 1
        },
        {
            id: 16,
            desc: 'Universal composite',
            standardcost: 48,
            quantity: 1
        }
      ]
    }
]
>> Task 3e ------------------------------------------------------------------------
{
  acknowledged: true,
  insertedId: null,
  matchedCount: 1,
  modifiedCount: 1,
  upsertedCount: 0
}
[
    {
      _id: 20,
      items: [
        {
            id: 22,
            desc: 'Porcelain Etch',
            standardcost: 35,
            quantity: 1
        },
        {
            id: 23,
            desc: 'Silane',
            standardcost: 25,
            quantity: 1
        },
        {
            id: 3,
            desc: 'EDTA Cleansing Gel 17%',
            standardcost: 8,
            quantity: 1
        },
        {
            id: 4,
            desc: 'Irrigation Solution 2% Chlorhexidine',
            standardcost: 9,
            quantity: 1
        },
        {
            id: 8,
            desc: 'Irrigation Needle and Syringe',
            standardcost: 2,
            quantity: 2
        }
      ]
    }
```

```
]
>> Illustrate/confirm changes made
```