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*The IIE’s Varsity College Pretoria*

ASSESSMENT COVER PAGE

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GROUP 1

Practical Assignment 2

DUE: 27 MAY 2024

**QUESTION 1**

CREATE TABLE CUSTOMER (

CUSTOMER\_ID NUMBER PRIMARY KEY,

FIRST\_NAME VARCHAR2(30),

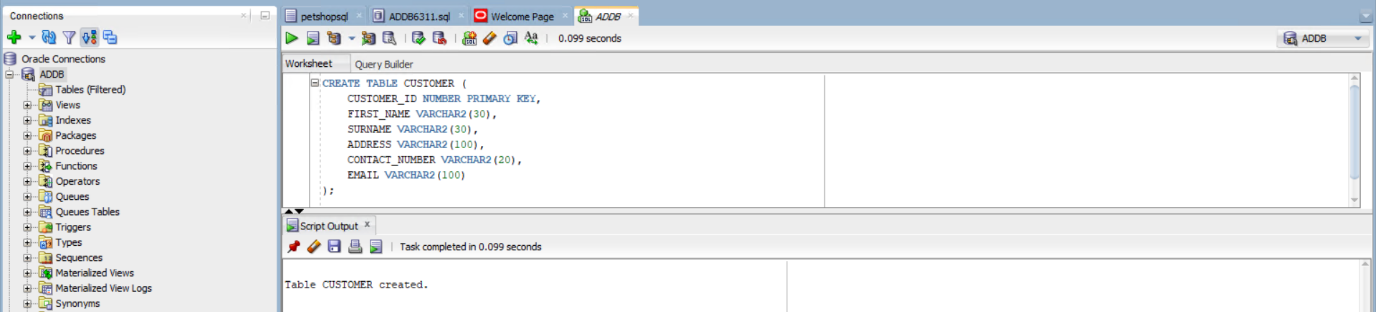
SURNAME VARCHAR2(30),

ADDRESS VARCHAR2(100),

CONTACT\_NUMBER VARCHAR2(20),

EMAIL VARCHAR2(100)

);



CREATE TABLE EMPLOYEE (

EMPLOYEE\_ID NUMBER PRIMARY KEY,

FIRST\_NAME VARCHAR2(30),

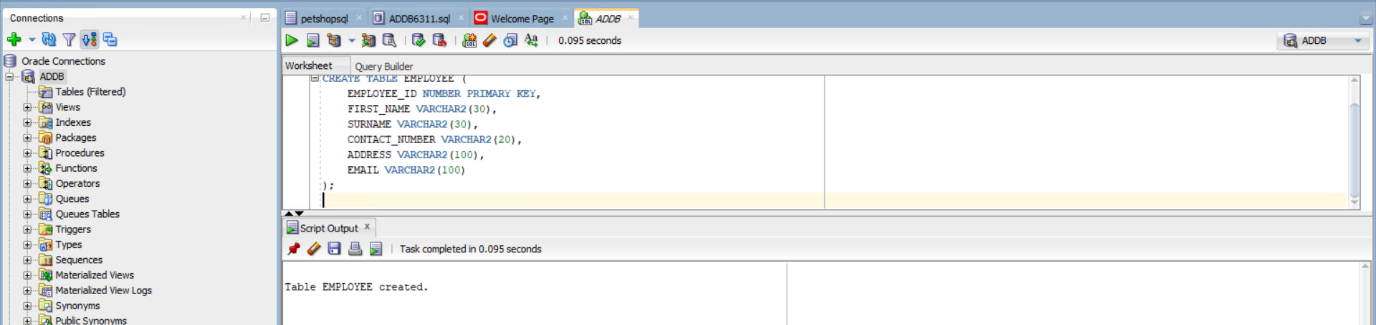
SURNAME VARCHAR2(30),

CONTACT\_NUMBER VARCHAR2(20),

ADDRESS VARCHAR2(100),

EMAIL VARCHAR2(100)

);



CREATE TABLE DONATOR (

FIRST\_NAME VARCHAR2(30),

SURNAME VARCHAR2(30),

CONTACT\_NUMBER VARCHAR2(20),

EMAIL VARCHAR2(100)

);

CREATE TABLE DONATION (

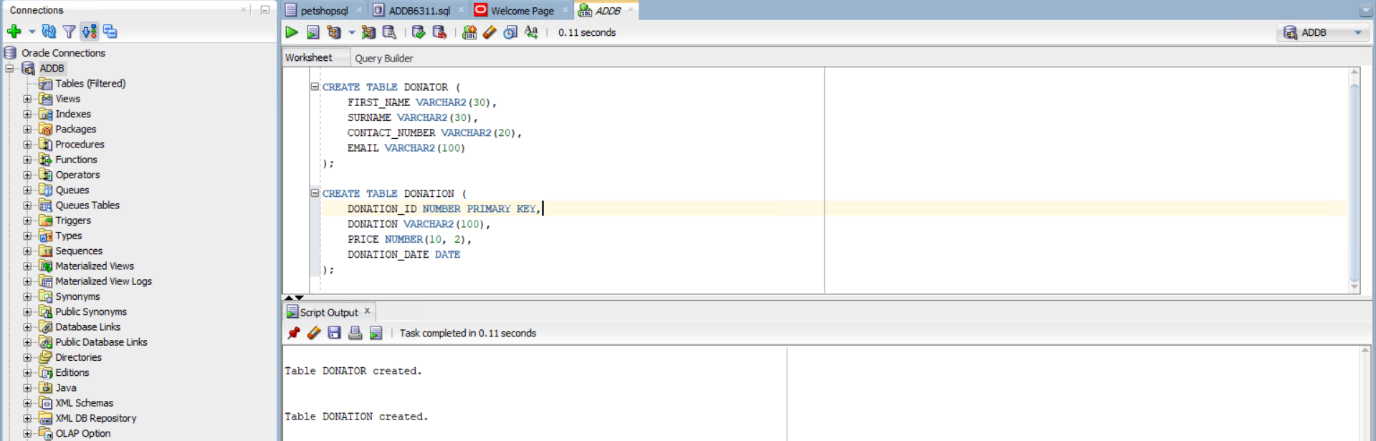
DONATION\_ID NUMBER PRIMARY KEY,

DONATION VARCHAR2(100),

PRICE NUMBER(10, 2),

DONATION\_DATE DATE

);



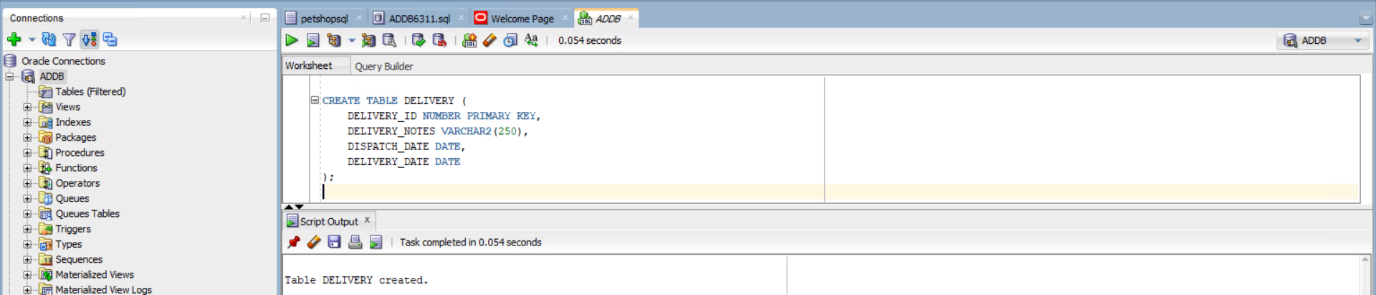
CREATE TABLE DELIVERY (

DELIVERY\_ID NUMBER PRIMARY KEY,

DELIVERY\_NOTES VARCHAR2(250),

DISPATCH\_DATE DATE,

DELIVERY\_DATE DATE

); 

CREATE TABLE RETURNS (

RETURN\_DATE DATE,

REASON VARCHAR2(250),

CUSTOMER\_ID NUMBER,

DONATION\_ID NUMBER,

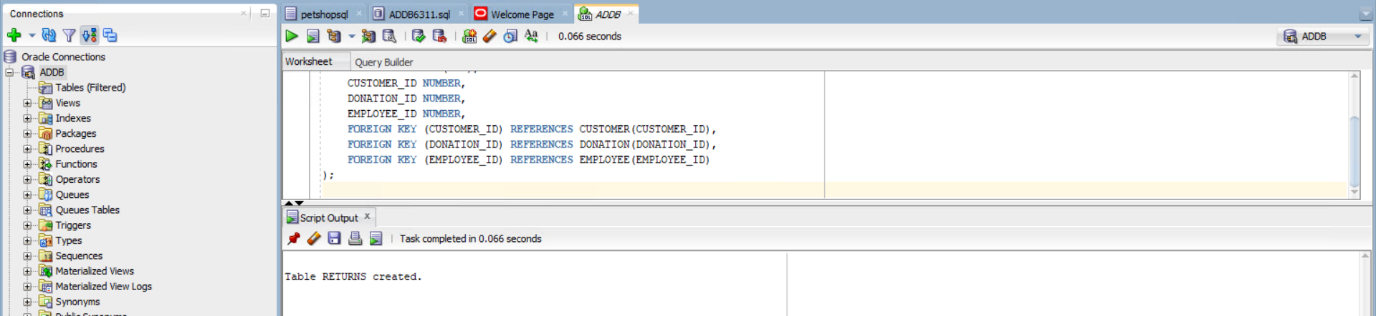
EMPLOYEE\_ID NUMBER,

FOREIGN KEY (CUSTOMER\_ID) REFERENCES CUSTOMER(CUSTOMER\_ID),

FOREIGN KEY (DONATION\_ID) REFERENCES DONATION(DONATION\_ID),

FOREIGN KEY (EMPLOYEE\_ID) REFERENCES EMPLOYEE(EMPLOYEE\_ID)

);



CREATE TABLE INVOICE (

INVOICE\_NUM NUMBER PRIMARY KEY,

CUSTOMER\_ID NUMBER,

INVOICE\_DATE DATE,

EMPLOYEE\_ID NUMBER,

DONATION\_ID NUMBER,

DELIVERY\_ID NUMBER,

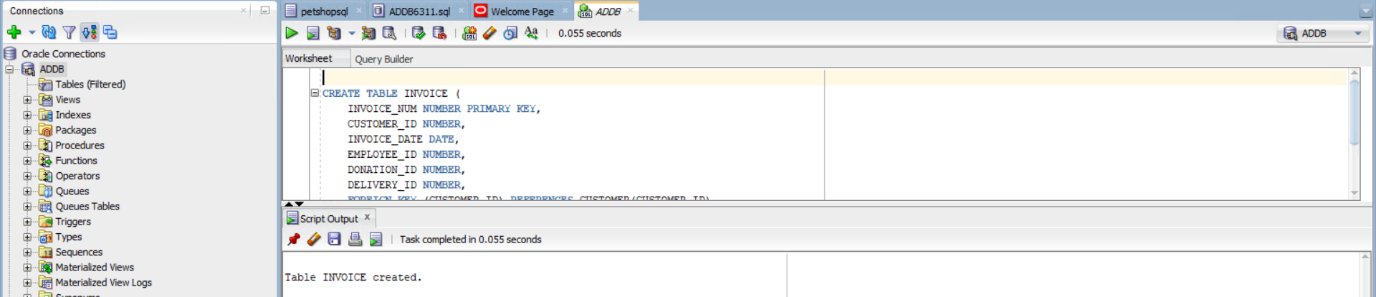
FOREIGN KEY (CUSTOMER\_ID) REFERENCES CUSTOMER(CUSTOMER\_ID),

FOREIGN KEY (EMPLOYEE\_ID) REFERENCES EMPLOYEE(EMPLOYEE\_ID),

FOREIGN KEY (DONATION\_ID) REFERENCES DONATION(DONATION\_ID),

FOREIGN KEY (DELIVERY\_ID) REFERENCES DELIVERY(DELIVERY\_ID)

);



Populating Tables

INSERT INTO CUSTOMER (CUSTOMER\_ID, FIRST\_NAME, SURNAME, ADDRESS, CONTACT\_NUMBER, EMAIL)

VALUES

('11011', 'Jack', 'Smith', '18 Water Rd', '0877277521', 'jsmith@isat.com'),

('11012', 'Pat', 'Hendricks', '22 Water Rd', '0863257857', 'ph@mcom.co.za'),

('11013', 'Andre', 'Clark', '101 Summer Lane', '0834567891', 'aclark@mcom.co.za'),

('11014', 'Kevin', 'Jones', '55 Mountain way', '0612547895', 'kj@isat.co.za'),

('11015', 'Lucy', 'Williams', '5 Main rd', '0827238521', 'lw@mcal.co.za');

INSERT INTO EMPLOYEE (EMPLOYEE\_ID, FIRST\_NAME, SURNAME, CONTACT\_NUMBER, ADDRESS, EMAIL)

VALUES

('emp101', 'Jeff', 'Davis', '0877277521', '10 main road', 'jand@isat.com'),

('emp102', 'Kevin', 'Marks', '0837377522', '18 water road', 'km@isat.com'),

('emp103', 'Adanya', 'Andrews', '0817117523', '21 circle lane', 'aa@isat.com'),

('emp104', 'Adebayo', 'Dryer', '0797215244', '1 sea road', 'aryer@isat.com'),

('emp105', 'Xolani', 'Samson', '0827122255', '12 main road', 'xosam@isat.com');

INSERT INTO DONATOR (FIRST\_NAME, SURNAME, CONTACT\_NUMBER, EMAIL)

VALUES

('Jeff', 'Watson', '0827172250', 'jwatson@ymail.com'),

('Stephen', 'Jones', '0837865670', 'joness@ymail.com'),

('James', 'Joe', '0878978650', 'jj@isat.com'),

('Kelly', 'Ross', '0826575650', 'kross@gsat.com'),

('Abraham', 'Clark', '0797656430', 'aclark@ymail.com');

INSERT INTO DONATION (DONATION\_ID, DONATION, PRICE, DONATION\_DATE)

VALUES

(7111, 'KIC Fridge', 599.00, '2024-05-01'),

(7112, 'Samsung 42inch LCD', 1299.00, '2024-05-03'),

(7113, 'Sharp Microwave', 1599.00, '2024-05-03'),

(7114, '6 Seat Dining room table', 799.00, '2024-05-05'),

(7115, 'Lazyboy Sofa', 1199.00, '2024-05-07'),

(7116, 'JVC Surround Sound System', 179.00, '2024-05-09');

INSERT INTO DELIVERY (DELIVERY\_ID, DELIVERY\_NOTES, DISPATCH\_DATE, DELIVERY\_DATE)

VALUES

(511, 'Double packaging requested', '2024-05-10', '2024-05-15'),

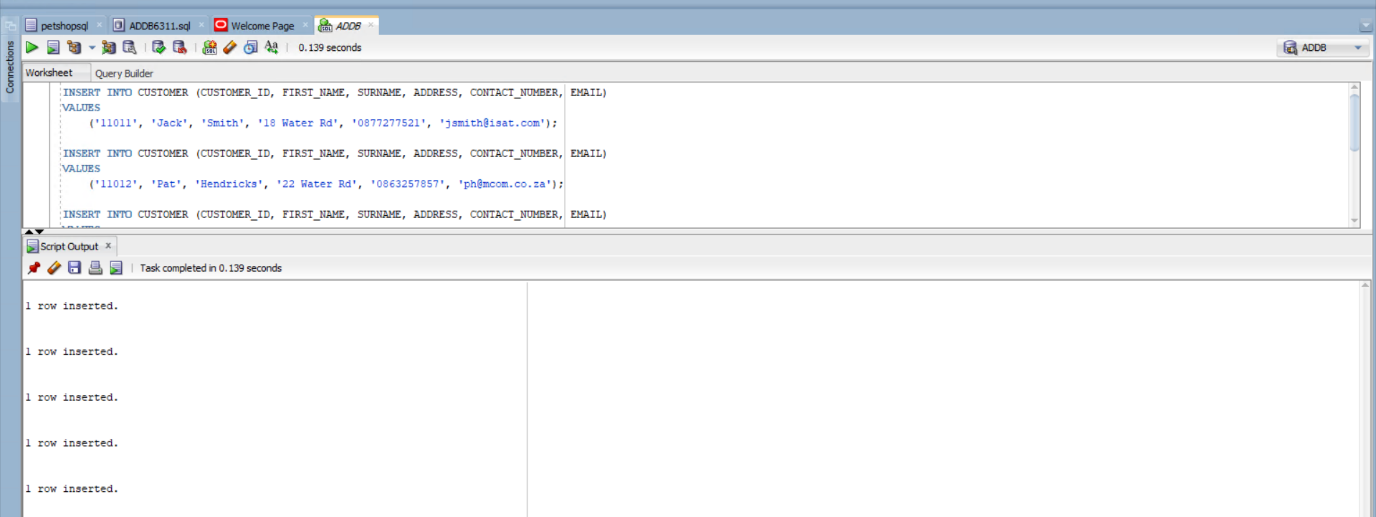
(512, 'Delivery to work address', '2024-05-12', '2024-05-15'),

(513, 'Signature required', '2024-05-12', '2024-05-17'),

(514, 'No notes', '2024-05-12', '2024-05-15'),

(515, 'Birthday present wrapping required', '2024-05-18', '2024-05-19'),

(516, 'Delivery to work address', '2024-05-20', '2024-05-25');



**QUESTION 2**

SELECT

CUSTOMER.FIRST\_NAME || ' ' || CUSTOMER.SURNAME AS CUSTOMER\_NAME,

INVOICE.EMPLOYEE\_ID,

DELIVERY.DELIVERY\_NOTES,

DONATION.DONATION AS DONATION\_PURCHASED,

INVOICE.INVOICE\_NUM

FROM

INVOICE

JOIN

CUSTOMER ON INVOICE.CUSTOMER\_ID = CUSTOMER.CUSTOMER\_ID

JOIN

EMPLOYEE ON INVOICE.EMPLOYEE\_ID = EMPLOYEE.EMPLOYEE\_ID

JOIN

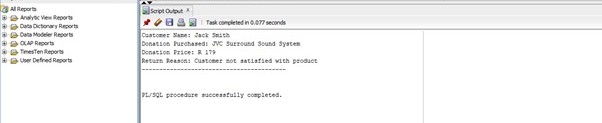
DELIVERY ON INVOICE.DELIVERY\_ID = DELIVERY.DELIVERY\_ID

JOIN

DONATION ON INVOICE.DONATION\_ID = DONATION.DONATION\_ID

WHERE

INVOICE.INVOICE\_DATE < '2024-05-18';



**QUESTION 3**

CREATE SEQUENCE ‘FUNDING\_SEQ’

START WITH 1

INCREMENT BY 1;

CREATE TABLE FUNDING (

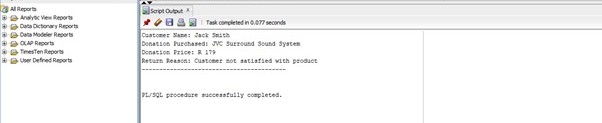
FUNDING\_ID NUMBER PRIMARY KEY,

FUNDER VARCHAR (100),

FUNDING\_AMOUNT NUMBER

);

Oracle (2024).

**QUESTION 4**

SELECT

c.FIRST\_NAME || ' '|| C.SURNAME AS CUSTOMER,

d.DONATION AS DONATION\_PURCHASED,

d.PRICE,

r.REASON AS RETURN\_REASON

FROM

RETURNS r

JOIN

CUSTOMER c ON R.CUSTOMER\_ID = c.CUSTOMER\_ID

JOIN

DONATION d ON r.DONATION\_ID = d.DONATION\_ID;

**QUESTION 5**

SET SERVEROUTPUT ON;

DECLARE

v\_customer\_name VARCHAR (30);

v\_employee\_name VARCHAR (30);

v\_donation VARCHAR2(100);

v\_dispatch\_date DATE;

v\_delivery\_date DATE;

v\_days\_to\_deliver NUMBER;

BEGIN

SELECT

c.FIRST\_NAME || '.' || c.SURNAME AS CUSTOMER\_NAME,

e.FIRST\_NAME || '.' || e.SURNAME AS EMPLOYEE\_NAME,

d.DONATION,

del.DISPATCH\_DATE,

del.DELIVERY\_DATE,

(del.DELIVERY\_DATE - del.DISPATCH\_DATE) AS DAYS\_TO\_DELIVER

INTO

v\_customer\_name,

v\_employee\_name,

v\_donation,

v\_dispatch\_date,

v\_delivery\_date,

v\_days\_to\_deliver

FROM

INVOICE i

JOIN

CUSTOMER c ON I.CUSTOMER\_ID = c.CUSTOMER\_ID

JOIN

EMPLOYEE e ON I.EMPLOYEE\_ID = e.EMPLOYEE\_ID

JOIN

DONATION d ON i.DONATION\_ID = d.DONATION\_ID

JOIN

DELIVERY del ON i.DELIVERY\_ID = del.DELIVERY\_ID

WHERE

c.CUSTOMER\_ID = '11013';

DBMS\_OUTPUT.PUT\_LINE ('CUSTOMER: ' || v\_customer\_name);

DBMS\_OUTPUT.PUT\_LINE ('EMPLOYEE: ' || v\_employee\_name);

DBMS\_OUTPUT.PUT\_LINE ('DONATION: ' || v\_donation);

DBMS\_OUTPUT.PUT\_LINE ('DISPATCH DATE: ' || TO\_CHAR (v\_dispatch\_date, 'DD/MON/YY'));

DBMS\_OUTPUT.PUT\_LINE ('DELIVERY DATE: ' || TO\_CHAR (v\_delivery\_date, 'DD/MON/YY'));

DBMS\_OUTPUT.PUT\_LINE ('DAYS TO DELIVER: ' || v\_days\_to\_deliver);

END;

Database Tutorial (2018).

A screenshot of a computer

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**QUESTION 6**

SELECT

c.FIRST\_NAME || ': ' AS "FIRST NAME:",

c.SURNAME || ': ' AS "SURNAME:", 'R ' ||

SUM (d.DONATION\_AMOUNT) ||

CASE

WHEN

SUM (d.DONATION\_AMOUNT) > = 1500 THEN ' (\*) '

ELSE

END AS "AMOUNT:"

FROM

CUSTOMER c

JOIN

INVOICE i ON c.CUSTOMER\_ID = i.CUSTOMER\_ID

JOIN

DONATION d ON i.DONATION\_ID = d.DONATION\_ID

GROUP BY

c.FIRST\_NAME, c.SURNAME

ORDER BY

c.FIRST\_NAME, c.SURNAME;

**QUESTION 7**

7.1

DECLARE

-- declare a variable with the same datatype as a column in the ORDERS table

\_customer\_name ORDERS.CUSTOMER\_NAME%TYPE;

BEGIN

--assign value to the variable

\_customer\_name := 'Jack';

-- display value of the variable

DBMS\_OUTPUT.PUT\_LINE('Customer Name: ' || \_customer\_name);

END;

7.2

DECLARE

-- declare a variable with the same datatype as a column in the ORDERS table

\_customer\_name ORDERS.CUSTOMER\_NAME%TYPE;

BEGIN

--assign value to the variable

\_customer\_name := 'Jack';

-- display value of the variable

DBMS\_OUTPUT.PUT\_LINE('Customer Name: ' || \_customer\_name);

END;

Oracle (2024).

7.3

DECLARE

\_customer\_id CUSTOMERS.CUSTOMER\_ID%TYPE;

BEGIN

-- assign value to the variable

\_customer\_id := 11016;

BEGIN

SELECT CUSTOMER\_ID INTO \_customer\_id

FROM CUSTOMERS

WHERE CUSTOMER\_ID = \_customer\_id;

-- if SELECT statement returns a row, output that the customer is found

DBMS\_OUTPUT.PUT\_LINE('Customer Found.');

EXCEPTION

-- handle NO\_DATA\_FOUND exception

WHEN NO\_DATA\_FOUND THEN

DBMS\_OUTPUT.PUT\_LINE('Customer not found.');

END;

END;

Tutorialspoint (2024).

SQL language reference (2024) Oracle Help Center. Available at: https://docs.oracle.com/en/database/oracle/oracle-database/19/sqlrf/CREATE-SEQUENCE.html (Accessed: 27 May 2024).

How to enable DBMS\_OUTPUT in SQL developer: Oracle SQL Developer Tips and tricks (2018) YouTube. Available at: https://youtu.be/uZhOkp3CIzw?si=\_0HDmhsiyJKwfRqQ (Accessed: 26 May 2024).

%ROWTYPE attribute. Available at: https://docs.oracle.com/cd/B13789\_01/appdev.101/b10807/13\_elems042.htm (Accessed: 27 May 2024).

PL/SQL - exceptions (no date) Tutorialspoint. Available at: https://www.tutorialspoint.com/plsql/plsql\_exceptions.htm (Accessed: 27 May 2024).