

Short Quiz: Working with Composite Data types (20pts)

1. When do we use the %ROWTYPE attribute in the following situations:

A. When you are not sure about the structure of the underlying database table.

```
DECLARE
    v_emp_rec employees%ROWTYPE;
```

B. When you want to retrieve an entire row from a table.

```
SET SERVEROUTPUT ON

DECLARE
    v_emp_rec employees%ROWTYPE;

BEGIN
    SELECT * INTO
        v_emp_rec
    FROM employees
    WHERE employee_id = 170;

    DBMS_OUTPUT.PUT_LINE('Records Data');
    DBMS_OUTPUT.PUT_LINE('ID: ' || TO_CHAR(v_emp_rec.employee_id));
    DBMS_OUTPUT.PUT_LINE('First Name: ' || TO_CHAR(v_emp_rec.first_name));
    DBMS_OUTPUT.PUT_LINE('Last Name: ' || TO_CHAR(v_emp_rec.last_name));
    DBMS_OUTPUT.PUT_LINE('Email: ' || TO_CHAR(v_emp_rec.email));
END;
/
```

C. When you want to declare a variable according to another previously declared variable or database column.

```
DECLARE
    rec_1 employees%ROWTYPE;
    rec_2 rec_1%ROWTYPE;

BEGIN

END;
/
```

2. Write a PL/SQL block to print information about a given country. In the declarative section, declare a variable v_countryid and assign CA. Declare the v_country_record variable of type countries. Countries table has the following structure:

Column name	Type
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country_id	char(2)
country_name	varchar(2)
region_id	number

In the executable section, get all the information from the countries table by using v_countryid. Display selected information about the country. Sample output is:

```
anonymous block completed  
Country Id: CA Country Name: Canada Region: 2
```

```
SET SERVEROUTPUT ON
```

```
DECLARE
```

```
    v_countryid VARCHAR(10) := 'CA';
```

```
    v_country_record countries%ROWTYPE;
```

```
BEGIN
```

```
    SELECT *
```

```
    INTO v_country_record
```

```
    FROM countries
```

```
    WHERE country_id = v_countryid;
```

```
    DBMS_OUTPUT.PUT_LINE('Country ID: ' || TO_CHAR(v_country_record.country_id));
```

```
    DBMS_OUTPUT.PUT_LINE('Country Name: ' || TO_CHAR(v_country_record.country_name));
```

```
    DBMS_OUTPUT.PUT_LINE('Country Region: ' || TO_CHAR(v_country_record.region_id));
```

```
END;
```

```
/
```