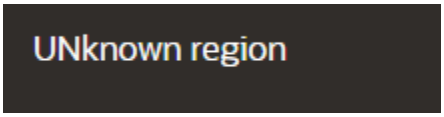
Section 4:

IF Statements:

```
1   DECLARE
2   region_id NUMBER:= 91;
3   BEGIN
4   if region_id in (5,13,21) then
5       dbms_output.put_line('America');
6       elsif region_id in (11,14,15) then
7       dbms_output.put_line('Africa');
8       elsif region_id in (30,34,35) then
9       dbms_output.put_line('Asia');
10      else
11      dbms_output.put_line('UNknown region');
12      end if
13  end;
```



Case statement:

```
DECLARE
region_id NUMBER:= 91;
BEGIN
    case
        when region_id in (5,13,21) then
            dbms_output.put_line('America');
        when region_id in (11,14,15) then
            dbms_output.put_line('Africa');
        when region_id in (30,34,35) then
            dbms_output.put_line('Asia');
        else
            dbms_output.put_line('Unknown region');
    end case;
end;
```

```
Unknown region
```

LOOP:

```
BEGIN
    for counter IN 1..5 loop
    dbms_output.put_line(counter);
    end loop;
    end;
```

```
1
2
3
4
5
```

Simple if condition:

```
1  DECLARE
2  age number:=31;
3  begin
4  if age>18 then
5  dbms_output.put_line('U can be arrested');
6  end if;
7  end;
```

```
U can be arrested
```

Simple if else condition:

```
1  DECLARE
2  age number:=17;
3  begin
4  if age>18 then
5  dbms_output.put_line('U can be arrested');
6  else
7  dbms_output.put_line('get urself in juvinile lolllllll')
8  end if;
9  end;
```

```
DECLARE age number:=17; begin if age>18 then dbms_output.put_line('U can be arrested'); else
dbms_output.put_line('get urself in juvinile lolllllll'); end if; end;

get urself in juvinile lolllllll
```

If statement with multiple expressions:

```
1   DECLARE
2   age number:=17;
3   name varchar2(100):='Uday'
4   begin
5   if age>18 and name = 'Uday' then
6   dbms_output.put_line(name||' is a major');
7   else
8   dbms_output.put_line(name||' is a major');
9   end if;
10  end;
```

```
Uday is a major
```

Null values in If statements:

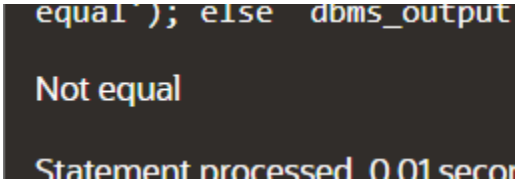
```
1   DECLARE
2   age number;
3   begin
4   if age>18 then
5   dbms_output.put_line('U are a major');
6   else
7   dbms_output.put_line('U are a minor');
8   end if;
9   end;
```

```
DECLARE age number; begin if age>18 then dbms_output.put_line('U are a major'); else
dbms_output.put_line('U are a minor'); end if; end;

U are a minor
```

Handlings nulls:

```
1   DECLARE
2   age number:= NULL;
3   age2 number:=NULL;
4   begin
5   if age=age2 then
6   dbms_output.put_line('Both are equal');
7   else
8   dbms_output.put_line('Not equal');
9   end if;
10  end;
```



4.2:

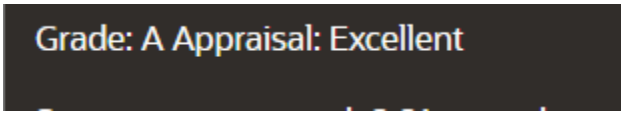
Searched case statements:

```
DECLARE
v_num NUMBER := 15;
v_txt VARCHAR2(50);
BEGIN
IF v_num > 20 THEN
v_txt := 'greater than 20';
ELSIF v_num > 15 THEN
 v_txt := 'greater than 15';
ELSE
v_txt := 'less than 16';
END IF;
DBMS_OUTPUT.PUT_LINE(v_txt);
END;
```

```
less than 16
```

Case expression grade example:

```
DECLARE
v_grade CHAR(1) := 'A';
v_appraisal VARCHAR2(20);
BEGIN
v_appraisal :=
CASE v_grade
WHEN 'A' THEN 'Excellent'
WHEN 'B' THEN 'Very Good'
WHEN 'C' THEN 'Good'
ELSE 'No such grade'
END;
DBMS_OUTPUT.PUT_LINE('Grade: ' || v_grade ||
' Appraisal: ' || v_appraisal);
END;
```



4.3:

Basic loop expression:

```
DECLARE
counter NUMBER(2):=1;
BEGIN
LOOP
dbms_output.put_line(counter);
counter:=counter+1;
exit when counter>10;
end loop;
end;
```

```
1
2
3
4
5
6
7
8
9
10
```

4.4:

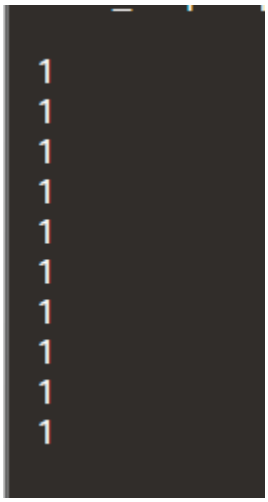
While loop:

```
1  DECLARE
2  counter NUMBER(2):=1;
3  BEGIN
4  while counter<10 loop
5  counter:=counter+1;
6  end loop;
7  end;
```

```
1
2
3
4
5
6
7
8
9
```

For loop expression:

```
1  DECLARE
2  counter NUMBER:=1;
3  counter_end number:=10;
4  BEGIN
5  for i in counter..counter_end loop
6  dbms_output.put_line(counter);
7  end loop;
8  end;
```



4.5:

Nested loop:

```
BEGIN
FOR v_outerloop IN 1..3 LOOP
FOR v_innerloop IN REVERSE 1..5 LOOP
DBMS_OUTPUT.PUT_LINE('Outer loop is: ' ||
v_outerloop ||
' and inner loop is: ' ||
v_innerloop);
END LOOP;
END LOOP;
END;
```

```
Outer loop is: 1 and inner loop is: 5
Outer loop is: 1 and inner loop is: 4
Outer loop is: 1 and inner loop is: 3
Outer loop is: 1 and inner loop is: 2
Outer loop is: 1 and inner loop is: 1
Outer loop is: 2 and inner loop is: 5
Outer loop is: 2 and inner loop is: 4
Outer loop is: 2 and inner loop is: 3
Outer loop is: 2 and inner loop is: 2
Outer loop is: 2 and inner loop is: 1
Outer loop is: 3 and inner loop is: 5
Outer loop is: 3 and inner loop is: 4
Outer loop is: 3 and inner loop is: 3
Outer loop is: 3 and inner loop is: 2
Outer loop is: 3 and inner loop is: 1
```

Loop lables:

```
1  DECLARE
2  v_outerloop PLS_INTEGER := 0;
3  v_innerloop PLS_INTEGER := 5;
4  BEGIN
5  <<outer_loop>>
6  LOOP
7  v_outerloop := v_outerloop + 1;
8  v_innerloop := 5;
9  EXIT WHEN v_outerloop > 3;
10 <<inner_loop>>
11 LOOP
12 DBMS_OUTPUT.PUT_LINE('Outer loop is: ' || v_outerloop ||
13 ' and inner loop is: ' || v_innerloop);
14 v_innerloop := v_innerloop - 1;
15 EXIT WHEN v_innerloop = 0;
16 END LOOP inner_loop;
17 END LOOP outer_loop;
18 END;
```

```
Outer loop is: 1 and inner loop is: 5
Outer loop is: 1 and inner loop is: 4
Outer loop is: 1 and inner loop is: 3
Outer loop is: 1 and inner loop is: 2
Outer loop is: 1 and inner loop is: 1
Outer loop is: 2 and inner loop is: 5
Outer loop is: 2 and inner loop is: 4
Outer loop is: 2 and inner loop is: 3
Outer loop is: 2 and inner loop is: 2
Outer loop is: 2 and inner loop is: 1
Outer loop is: 3 and inner loop is: 5
Outer loop is: 3 and inner loop is: 4
Outer loop is: 3 and inner loop is: 3
Outer loop is: 3 and inner loop is: 2
Outer loop is: 3 and inner loop is: 1

Statement processed. 0.01 seconds
```