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#LifeKoKaroLift

TechM Full Stack Software Development

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Course: Foundation of Databases
Lecture On: Advanced PL/SQL - II
Instructor: Vishwa Mohan

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Today's Agenda

1. **Subprograms**
2. **Procedures**
3. **Functions**

Subprograms

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Subprogram

It is a PL/SQL block that performs a specific task. Subprograms can call or can be called by another subprogram to complete a business logic.

Subprograms are of two types:

- **Functions** - Used to compute and return values. A function is used when there is a need to calculate and return values based on input parameters.

- **Procedures** - Used to perform an action. It does not return any value directly. A procedure is used when there is a need to perform one or more tasks in a specified order.

Subprograms

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Subprograms can be created at three levels :

1. **Schema Level (Standalone)**

Here, it acts as the standalone program. Also, it gets stored in the database and can be deleted with the DROP PROCEDURE or the DROP FUNCTION statement.

1. **Package Level (Package)**

This is called a packaged subprogram. It is also stored in the database and can deleted with the DELETE PACKAGE statement.

1. **Inside a PL/SQL Block (Nested)**

This is a subprogram that is present inside another PL/SQL block.

Procedures

Syntax:

```
CREATE [OR REPLACE] PROCEDURE procedure_name
[(parameter_name [IN | OUT | IN OUT] type [, ...])]
{IS | AS}
BEGIN
  < procedure_body >
 END procedure_name;
```

Let's take a look at Example 1

Poll 1

Which of the following statements about the IN OUT parameter modes in PL/SQL subprograms is correct?

1. It is passed as an initial value to the subprogram for the execution of code.
2. It returns the updated/calculated value to the caller.
3. Both 1 and 2
4. None of the above

Poll 1 (Answer)

Which of the following statements about the IN OUT parameter modes in PL/SQL subprograms is correct?

1. It is passed as an initial value to the subprogram for execution of code.
2. It returns the updated/calculated value to the caller.
3. **Both 1 and 2**
4. None of the above

Procedures: Hands-On Exercise (5 min)

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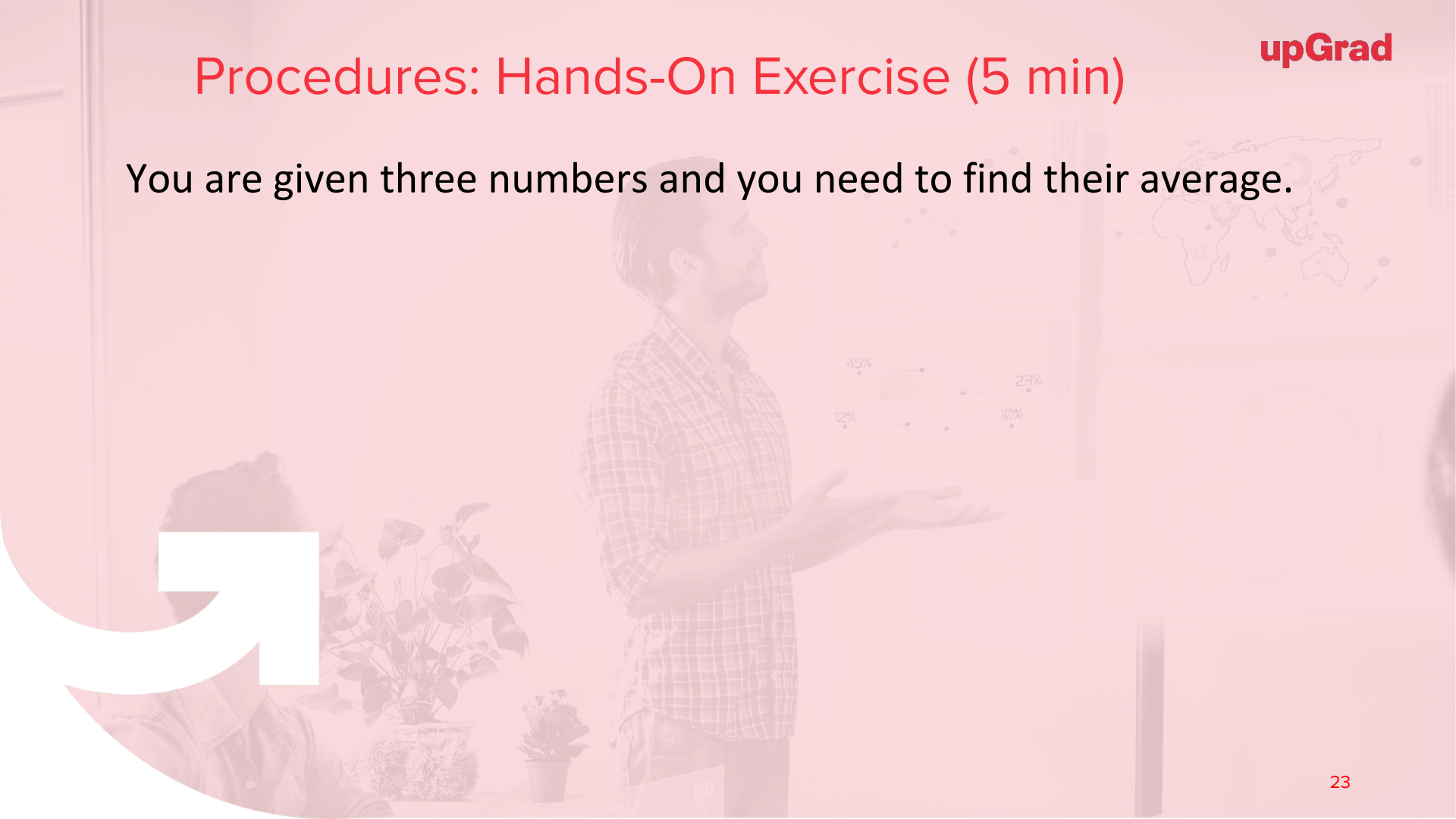
You are given three numbers and you need to find their average.



Functions

They are the same as procedures, except they return a value.

Syntax:

```
CREATE [OR REPLACE] FUNCTION func
[(param_name [IN | OUT | IN OUT] type [, ...])]
RETURN datatype
{IS | AS}
BEGIN
  < func_body >
END [func];
```

Let's take a look at Example 2

Functions: Hands-On Exercise (5 min)

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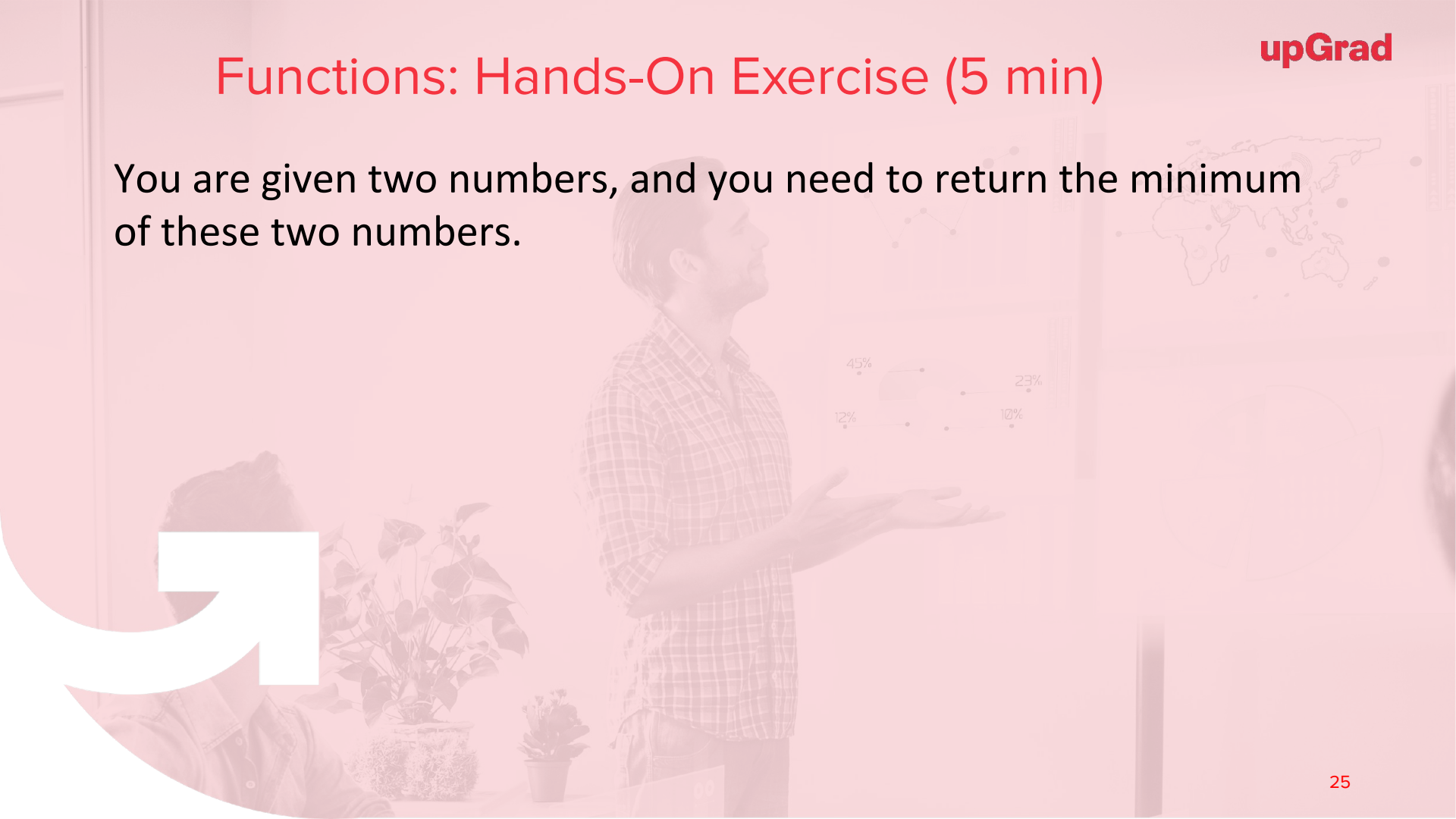
You are given two numbers, and you need to return the minimum of these two numbers.




DISCUSSION TIME

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Thank You!