Midterm Sample Quiz

Due No due date   **Points** 15   **Questions** 15   **Time Limit** None
Allowed Attempts Unlimited

Instructions

Take this sample midterm quiz to get a sense of the types of questions that you will see on Friday! If you have any questions about the answers or the format, please contact me immediately!

<u>**Take the Quiz Again**</u>

Attempt History

	Attempt	**Time**	**Score**
LATEST	<u>**Attempt 1**</u>	3 minutes	15 out of 15

Submitted Oct 12 at 3:46pm

Question 1	**1 / 1 pts**

In a(n) _____ programming language, the *assignment* statement (or expression) is akin to the pipeline between the memory and the processor in the Von Neumann Model.

Correct!

imperative

orrect Answers

object-oriented

imperative

Question 2

1 / 1 pts

In a *statically typed programming language*, all the variables must have a type at the time of compilation. Please select *all* the different ways that a variable can be given a type at the time of compilation. (Again, please check *all* the ways!)

Correct!   ☑ Implicit - Inference

Correct!   ☑ Implicit - Convention

☐ Assumed

Correct!   ☑ Explicit

☐ Abstraction

☐ Scoped

Question 3

1 / 1 pts

Which of the following are the valid lifetimes for a variable.

Correct!   ☑ Implicit heap dynamic

☐ Runtime

☐ Modern

☐ Classic

Correct!   ☑ Explicit heap dynamic

Correct! ☑ Stack dynamic

Correct! ☑ Static

Question 4   1 / 1 pts

A language with _____ (two words)
is one without side effects.

Correct!

> referential transparency

Correct Answers   referential transparency

Question 5   1 / 1 pts

Consider this snippet of code:

```
def wide() {
        receiver = "receiver contents"
        def out() {
                value_of_receiver = receiver
                print(f"receiver: {value_of_receiver}")
        }
        def in() {
                out()
        }
        def around() {
                receiver = "not the wide value"
                out()
        }
        around()
}
def main() {
        wide()
}
```

In this *hypothetical* language,

1. Every function has its own scope (enclosed between the { and the

`}`) and the name of that scope is the same as the function,

2. **scoping is dynamic**, and

3. program execution begins with the `main` function.

When this program is invoked, execution begins at the `main` function which invokes `wide`. In turn, `wide` invokes `around`. `around` invokes `out`. Order the scopes that will be searched (from innermost to outermost) for `receiver` when it is accessed in `out`.

Correct!	**1**	out ⌄
Correct!	**2**	around ⌄
Correct!	**3**	wide ⌄
Correct!	**4**	main ⌄

Other Incorrect Match Options:

- in

Question 6   1 / 1 pts

Which of the following are characteristics of a subprogram? (Check all that apply)

Correct!	☑ Subprogram has a single entry.
Correct!	☑ Program execution returns to the caller upon completion of the subprogram's execution.
Correct!	☑ Caller is suspended until completion of the subprogram.

☐ It cannot change the value of global variables.

Question 7   1 / 1 pts

The _____ parameters of a subprogram are declared in the subprogram header.

Correct!

> formal

Correct Answers

formal

Question 8   1 / 1 pts

The _____ is the time during which a variable is bound to storage.

Correct!

> lifetime

Correct Answers

lifetime

Question 9   1 / 1 pts

The _____ (two words) of a subprogram contains the number, order and type of its formal parameters.

Correct!

parameter profile

rrect Answers   parameter profile

Question 10   1 / 1 pts

A(n) _____ is a subprogram that does not return a value.

Correct!

procedure

rrect Answers   procedure

Question 11   1 / 1 pts

Subprograms are _____ abstractions.

Correct!

process

rrect Answers   process

Question 12   1 / 1 pts

The _____ of a language are the rules for constructing *valid* programs.

Correct!

syntax

Correct Answers

syntax

Question 13   1 / 1 pts

A(n) _____ (two words) is a pattern of problem-solving thought that underlies a particular genre of programs and languages.

Correct!

programming paradigm

Correct Answers

programming paradigm

Question 14   1 / 1 pts

A variable is _____ scoped to a unit or block of a program if it is declared there.

Correct!

locally

Correct Answers

local

locally

Question 15   1 / 1 pts

The data structure that holds all the information about an active function is known as the _____ (two words).

Correct!

stack frame

Correct Answers

activation record

stack frame