

Memory Management Quiz

6 out of 6 correct

1. What is multiprocessing in Python?

- ☐ A process of running multiple threads simultaneously within a single process.
- ☒ A process of running multiple processes simultaneously within a single thread.
- ☐ A process of running multiple processes simultaneously within multiple threads.
- ☐ A process of running a single process within multiple threads.

Explanation: B is the correct answer, as multiprocessing in Python is the process of running multiple processes simultaneously within a single thread.

2. What is the purpose of multiprocessing in Python?

- ☒ To improve the performance of a program by using multiple CPUs or CPU cores.
- ☐ To improve the memory utilization of a program by using multiple CPUs or CPU cores.
- ☐ To improve the overall efficiency of a program by using multiple CPUs or CPU cores.
- ☐ To improve the input/output operations of a program by using multiple CPUs or CPU cores.

Explanation: A is the correct answer, as the primary purpose of multiprocessing in Python is to improve the performance of a program by using multiple CPUs or CPU cores.

3. Which module is used to create and manage processes in Python?

- ☒ multiprocessing
- ☐ threading
- ☐ concurrent.futures
- ☐ queue

Explanation: A is the correct answer, as the multiprocessing module is used to create and manage processes in Python.

4. What is a process pool in multiprocessing?

- ☐ A group of threads that share the same set of variables.
- ☐ A group of processes that share the same set of variables.
- ☒ A set of processes that can be executed concurrently to perform a specific task.



- ☐ A set of threads that can be executed concurrently to perform a specific task.

Explanation: C is the correct answer, as a process pool is a set of processes that can be executed concurrently to perform a specific task.

5. Which method is used to start a new process in Python?

- ☒ **start()**
- ☐ run()
- ☐ create()
- ☐ begin()

Explanation: A is the correct answer, as the start() method is used to start a new process in Python.

6. What is the difference between multiprocessing and multithreading in Python?

- ☒ **Multithreading runs multiple threads simultaneously within a single process, while multiprocessing runs multiple processes simultaneously within a single thread.**
- ☐ Multithreading runs multiple processes simultaneously within a single thread, while multiprocessing runs multiple threads simultaneously within a single process.
- ☐ Multithreading and multiprocessing are the same thing.
- ☐ Multiprocessing is used for CPU-bound tasks, while multithreading is used for I/O-bound tasks.

Explanation: A is the correct answer, as the primary difference between multiprocessing and multithreading in Python is that multiprocessing runs multiple processes simultaneously within a single thread, while multithreading runs multiple threads simultaneously within a single process. The other options are incorrect.

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