

# Shared Pointer Exercises

- Describe the C++ `shared_ptr`. How does it differ from `unique_ptr`?
- What is a reference counter? How is it used in the C++ `shared_ptr` implementation?

- Describe what happens when
  - A new `shared_ptr` instance is created
  - A `shared_ptr` instance is created as a copy of another instance
  - A `shared_ptr` instance is assigned to another instance

- Give an example of a programming problem where a shared pointer could be useful
- Give a disadvantage of using shared pointers

- Write a simple program which creates an instance of an initialized shared pointer and prints out its data
- Alter your program so that it creates another instance which is a copy of the first instance
- Alter your program so that it creates an uninitialized instance and assigns the first instance to it