

Variant Type Exercises

std::variant

- Briefly describe std::variant

Default Constructor

- Write down the declaration of a variant which can store a char, an int or a double
- How will this variant be initialized?

Converting Constructor

- Write down the declaration of a variant which
 - Can store an `std::string` or an `int`
 - Will be initialized with the `int` member in use

Assigning Data to a Variant

- Write a program which uses your variant declaration from the first exercise
- Store a double in the variant
- Check that your program compiles
- What happens if you try to store data that does not match any of the alternatives?

Accessing Data in a Variant

- Modify your program to display the double you stored in the last exercise
- Use two different ways to access the data
- What happens if you try to access an alternative that is not in use?

std::get_if()

- What is the difference between std::get() and std::get_if()?
- Rewrite your program from the last exercise to use get_if()

std::holds_alternative()

- Briefly describe std::holds_alternative()
- Write a program which uses holds_alternative()

index() Member Function

- Briefly describe the `index()` member function of `std::variant`