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Practical week 3

C++ Data Types

C++ data types tell the computer **what kind of data** a variable will store.

Basic data types

These are used to store simple values.

- **int** is used to store whole numbers, for example `int age = 18;`
- **float** is used to store decimal numbers, for example `float price = 25.5;`
- **double** stores larger decimal values, for example `double distance = 123.456;`
- **char** stores a single character, for example `char grade = 'A';`
- **bool** stores true or false values, for example `bool isPassed = true;`

Derived data types

These are created from basic data types.

- **Array** stores many values of the same type, for example `int marks[3] = {70, 80, 90};`
- **Pointer** stores the address of a variable, for example `int *ptr = &age;`
- **Function** groups statements to perform a task, for example `int add(int a, int b);`

User-defined data types

These are created by the programmer.

- **struct** groups different data types together
- **union** stores different data types in the same memory location
- **enum** stores a set of named constant values
- **class** is used to create objects in C++

Void data type

The **void** data type means no value is returned.

Conclusion

C++ data types help the computer understand **what kind of data** is being used and **how much memory** to allocate.