Summary: C Language Concepts

1. What is the purpose of typedef?

typedef is used to create an alias for an existing data type, making code easier to read and reducing repeti

2. How are bit fields declared and what are their size limitations?

Bit fields are declared inside structs, like:

struct Example {

unsigned int x : 4;

};

The size limit depends on the base type, typically int (32 bits).

3. What happens if a bit field overflows?

Excess bits are discarded, and only the least significant bits are stored.

4. How is typedef used with complex types like structs and unions?

typedef can simplify declarations:

typedef struct { int x; } Point;

5. What is the default underlying type of an enum?

The default underlying type of an enum is int.

6. How is a union different from a struct?

- struct: Each member has its own memory space.

- union: All members share the same memory space, storing only one at a time.

7. When is using a union more memory-efficient?

When only one of several types needs to be stored at a time.