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OneNote

Here's a table that provides a correspondence between basic C types, their typical sizes (in bytes), and the equivalent types defined in stdint.h. The sizes mentioned are the most common ones found in various architectures but can vary depending on the compiler and the system architecture (32-bit vs. 64-bit systems).

Basic C Type	Typical Size (Bytes)	stdint.h Equivalent	Fixed Size (Bytes)
char	1	int8_t / uint8_t	1
short	2	int16_t / uint16_t	2
int	4 (32-bit), 4 (64-bit)	int32_t / uint32_t	4
long	4 (32-bit), 8 (64-bit)	int32_t / uint32_t int64_t / uint64_t	4 / 8
long long	8	int64_t / uint64_t	8
long double			
signed char	1	int8_t	1
unsigned char	1	uint8_t	1

Notes:

• Typical Size: This column shows the most common size for each type in bytes. The actual size

- can vary depending on the system architecture and compiler.

 stdint h Equivalent: This column lists the fixed-size types from
- stdint.h Equivalent: This column lists the fixed-size types from stdint.h that correspond to the basic C types. These types are guaranteed to have the same size across different platforms, making them particularly useful for portable code that requires precise control over data size
- Fixed Size: Specifies the exact size of the stdint.h types in bytes, which is consistent across different platforms.
- Key Points:
 The types defined in stdint.h provide fixed-width integers, ensuring consistent behavior across different platforms, which is crucial for portable code, especially when dealing with network
- protocols, file formats, and other interfaces that require exact data sizes.
- Basic C types like float, double, and long double do not have direct equivalents in stdint.h because stdint.h focuses on integer types.
- The size of long varies between 32-bit and 64-bit systems, which is why stdint.h provides both int32_t/uint32_t and int64_t/uint64_t as potential equivalents, depending on the system's
- architecture.
- Using stdint.h types is recommended when you need to ensure the portability of your code across different platforms with varying word sizes.

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