

Programming with C I

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Bitmasks

- 🛡️ We often want to manipulate or isolate specific bits from a collection
- 🛡️ A **bitmask** is a bit pattern that achieves this
- 🛡️ We can use and/or create bitmasks using bitwise operators

Example: CSCI courses

 **Array of ints vs. storing bits**

 **Bitmasks**

- Setting bits to 1 with |
- Setting bits to 0 with &
- “Masking off” unwanted bits

 **But how do we mask an arbitrary position?**

<< and >>

 << k shifts x left by k

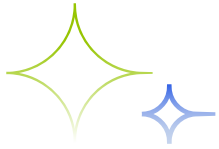
00110111 << 2 results in 11011100

01100011 << 4 results in 00110000

10010101 << 4 results in 01010000

 x >> k shifts x right by k

 Careful with unsigned ints for >>



THE END

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