# CSCI150 Assignment 1

### Convert decimal number 135 to binary

- ◉ 0b10000111
- ○ 0b10000101
- ○ 0b000100110101
- ○ None of above.

### Convert decimal number 46 to binary

- ○ 0b101111
- ○ 0b101100
- ○ 0b100110
- ◉ None of above.

### Write down the numbers after 3h, 5h, 7h

- ○ 11h, 13h, 15h, 17h, 21h
- ○ 9h, 11h, 13h, 15h, 17h
- ◉ 9h, Bh, Dh, Fh, 11h
- ○ None of above.

### Convert 60h to binary

- ○ 0b1111000
- ○ 0b111100
- ◉ 0b01100000
- ○ None of above.

## Convert 12345h to binary

○ 0b11011100101

◉ 0b00010010001101000101

○ 0b11000000111001

○ None of above.

## Convert 12345 to binary

○ 0b11011100101

○ 0b0001001001000101

◉ 0b11000000111001

○ None of above.

## Write down the 5 carry bits for when adding up binary number 1010 and 0111

○ 10001

◉ 11100

○ 01100

○ None of above.

## Write down the greatest number in decimal, that can be represented by 10bit unsigned binary

1023

## Write down the smallest number in decimal, that can be represented by 11bit signed binary

-1024

**What is the binary code for the smallest number in 8bit signed integer?**

- ⦿ 10000000
- ◯ 00000000
- ◯ 11111111
- ◯ None of above

**Convert 1989 to BCD code (only write down numbers)**

> 0001100110001001

**Search for an ASCII table online, what is the hexadecimal code for the text "CSCI150"? (write in format xxxx xxxx..., e.g. "OK!" is: 4F4B 21)**

> 4353 4349 3135 30

**A system has received 2 bytes of transmission, with the first bit being an extra odd parity bit: 100001111, 001010101. Is there detectable error?**

- ◯ Nope
- ◯ Yes, 100001111
- ⦿ Yes, 001010101
- ◯ Yes, both contain error.

**Which of the following is correct?**

- ◯ With fixed number of bits per sample. the higher the sampling rate, the better your recording quality.
- ◯ With fixed sampling rate. the higher the bitrate, the better your recording quality.
- ⦿ Both of above.
- ◯ None of above.

**A digital recording of audio file is 120 seconds, with bitrate 44 Kbps. Write down the exact number of KB needed for this recording.**

660

**What category do storage devices belong to in von Neumann architecture?**

○ CPU

○ Memory

◉ I/O Devices

○ None of above.

**When is bits used more commonly compared to bytes?**

◉ When measuring data transmission speed

○ When measuring data storage

○ When calculating memory capacity

○ Computers executes instructions bit by bit

**Which of the following is most likely analogue circuit?**

◉ Vinyl amplifier

○ Smart watch

○ AirPods

○ Fibre TV

**Google online and find out the bitrate for the best audio quality on Spotify**

○ 24 kbps

○ 96 kbps

○ 160 kbps

◉ 320 kbps

**Which of following are a part of a von Neumann CPU?**

○ Arithmetic Unit

○ Logic Unit

○ Datapath

◉ All of above