Assignment 2

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1. *C* expression that yields a word consisting of the least significant byte of x and the remaining bytes of y, given 2 unsigned ints x and y:

```
(x & 0x000000FF) | (y & 0xFFFFFF00)
```

where, `(x & 0xFF)` gives the LSB of x and `(y & 0xFFFFFF00)` gives all the bytes other than LSB combining which gives the required answer.

2. *C* expression that evaluates to 1 when below condition is true and 0 otherwise

A. Any bit of x equals 0 (i.e., all values of x other than x is all 1s)

```
!(x == 0xFFFFFFFF)
```

B. Any bit in the LSB of x equals 1 (i.e., all values of x where the LSB is not 0 as (`0 && 1`) is 0 and 1 otherwise)

```
(x & 0xFF) && 1
```

3. IEEE 754 approximation for π has hexadecimal representation of `0x40490FDB` and for 22.0/7.0 it is `0x40492492`, XNOR of which is `0x00002b49`. Hence the bit position at which π differs from 22.0/7.0 is the 10th bit in f (i.e., 10th bit after the decimal)