

Week 1 CS 33 Worksheet

1.

Assume:

```
int x = rand();  
int y = rand();  
unsigned ux = (unsigned) x;
```

Are the following statements always true?

a.

`ux >> 3 == ux/8`

b.

given `x > 0`,
`((x << 5) >> 6) > 0`

c.

`~x + x >= ux`

d.

given `x & 15 == 11`,
`(~(x >> 3) & (x >> 2)) << 31) >= 0`

e.

given `((x < 0) && (x + x < 0))`
`x + ux < 0`

f.

given `((x < 0) && (y < 0) && (x + y > 0))`
`((x | y) >> 30) == -1`

2.

Given: `x` has a 4 byte value of 255

What is the value of the byte with the lowest address in a

a.

big endian system?

b.

little endian system?