Computer Architecture HW2

1. a.

   ```
   f = g - h;
   f = i + f;
   ```

   b.
   Little-Endian:
   21, ba, dc, fe
   Big-Endian:
   fe, dc, ba, 21
   c.
   77496666

2. a.

   0x50000000
   b.
   No, Overflow
   c.
   0xB0000000
   d.
   Desired
   e.
   0xD0000000
   f.
   No, Overflow

3. a.
   R-type

   ```
   sub $s0, $s1, $s2
   ```

b.

I-type

0xadb50034

c.

R-type

nor $t1, $t1, $t2

d.

I-type

BEQ, $s0, $s1, 10

4. a.

20

b.

```
LOOP:
  temp = (0 < i);
  if(temp == 0)
    goto DONE;
  i = i - 1;
  B = B + 2;
  goto LOOP;
DONE:
```

c.

5N + 2

5. a.

$0.8 * 2 + 0.05 * 8 + 0.15 * 4 = 2.6$

b.

$\frac{2.6}{1.25} = 2.08 = x * 0.8 + 0.05 * 8 + 0.15 * 4 \Rightarrow x = 1.35$

c.

$\frac{2.6}{1.5} = 1.73 = x * 0.8 + 0.05 * 8 + 0.15 * 4 \Rightarrow x = 0.91$