CMPU-224 Lab4 Practice
Spring 2025

1. You are given the following dump of memory below. The format of the memory dump is `<address>:<value>`. For example, the byte at memory address `0x205` is `0x26` and the byte at memory address `0x21a` is `0x4e`.

```
200:e8 201:10 202:c4 203:4a 204:d7 205:26 206:44 207:7c 208:a3 209:0b 20a:96 20b:21 20c:da 20d:74 20e:4f 20f:df
210:8b 211:ea 212:94 213:e1 214:dd 215:5e 216:95 217:75 218:70 219:4c 21a:4e 21b:eb 21c:41 21d:cd 21e:38 21f:62
220:c3 221:8e 222:0d 223:b7 224:35 225:d3 226:54 227:84 228:3b 229:16 22a:56 22b:9f 22c:1a 22d:a5 22e:47 22f:60
230:ef 231:34 232:22 233:1d 234:83 235:b6 236:6c 237:27 238:cc 239:5d 23a:a2 23b:e5 23c:57 23d:d8 23e:8f 23f:6b
240:45 241:32 242:5f 243:2a 244:48 245:86 246:5c 247:6d 248:5b 249:b0 24a:40 24b:b4 24c:68 24d:52 24e:ed 24f:f1
250:a8 251:3f 252:d1 253:ff 254:c5 255:4b 256:aa 257:08 258:25 259:a0 25a:c2 25b:db 25c:d6 25d:61 25e:43 25f:be
260:f3 261:80 262:b5 263:ca 264:31 265:e9 266:6a 267:87 268:49 269:90 26a:81 26b:fd 26c:9a 26d:e3 26e:a7 26f:1c
270:7a 271:bb 272:cf 273:e4 274:c6 275:e2 276:63 277:2d 278:07 279:e6 27a:73 27b:7f 27c:69 27d:02 27e:d4 27f:15
280:2c 281:3e 282:de 283:fa 284:05 285:af 286:0a 287:0f 288:01 289:fe 28a:14 28b:0c 28c:53 28d:8a 28e:64 28f:b3
290:fb 291:46 292:ad 293:55 294:2b 295:1f 296:f4 297:29 298:a6 299:9e 29a:82 29b:d0 29c:91 29d:f5 29e:c9 29f:dc
```

What are the values of the following expressions below? **Give your answers in hexadecimal**.

Expression	**Value**
Little-endian **`char`** at address **`0x213`**	0x
Big-endian **`char`** at address **`0x267`**	0x
Little-endian **`short`** at address **`0x27a`**	0x
Big-endian **`short`** at address **`0x254`**	0x
Little-endian **`int`** at address **`0x21c`**	0x
Big-endian **`int`** at address **`0x234`**	0x

2. What is the value in `a0` after execution? Give your answer as a decimal number.

```
    li   t0, 10
    addi t1, t0, 5
    sub  a0, t1, t0

```

3. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
    li   t0, 0x0F
    li   t1, 0xF0
    or   t2, t0, t1
    andi a0, t2, 0xFF

```

4. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
    li   t0, 1
    slli a0, t0, 4
    addi a0, a0, 2

```

5. What is the value in `a0` after execution? Give your answer as a decimal number.

```
    li   t0, 10
    li   t1, -5
    add  a0, t0, t1

```

6. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
    li   t0, 0xAA
    li   t1, 0xFF
    xor  a0, t0, t1

```

7. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
    li   t0, 32
    srli a0, t0, 2

```

8. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
1    lui  a0, 0x1
2    addi a0, a0, 1
3
```

9. What is the value in `a0` after execution? Give your answer as a 4-byte hexadecimal number. You do not need to give any leading zeros in your answer.

```
1    li   t0, 0x110b4
2    li   a0, 0x224224
3    sw   a0, 0(t0)
4    lb   a0, 0(t0)
5
```

10. What is the value in `a0` after execution? Give your answer as a decimal number.

```
1    li   t0, 5
2    slli t0, t0, 1
3    addi t0, t0, 6
4    srli a0, t0, 2
5
```