

ECE 3610 Lab 3

Burke Libbey (6840752)

Code Listing:

```
LDX  #$00
LDAA #$10
LDAB #$FF
NEXT ADDB #$02
INX
SBA
CBA
BHI  NEXT
STX  $0830
SWI
```

Points to Ponder:

1. BGT assumes the operands are signed numbers. This will cause problems with numbers over 127.
2. It will return the square root of the next highest perfect square.
3. The assembled instruction would have a negative offset in the neighbourhood of -112. For convenience, we use a label to mark this, and the assembler calculates the offset during assembly, so we don't have to update our branch statements if we change the code between the label and the branch.
4. The precision in this context is the number of bytes in a word.
5. The maximum number of bytes our program can handle is 255.
6. O(1) :)
7. This system is big-endian.
8. The number of bytes to process is stored at \$0830.
9. ADCA is the only instruction in the loop with the potential to affect the Carry bit. 5 instructions are processed each loop iteration. Outside of the loop, CLC and ADCB also affect the Carry. CMPB can set the Carry, and would cause this program to not function correctly.

