1.

Decimal Hex Binary

-47 0xD1 1101 0001

-91 0xA5 1010 0101

89 0x59 0101 1001

90 0x5A 0101 1010

-11 0xF5 1111 0101

2.

a) ARM is fun!

b) X48656C6C6F

3.

a) 0111 1001

+ 1100 0101

10011 1110

In this case, x + y = 0011 1110

b) x-y = x+ (-y)

y= 1100 0101

-y = 0011 1011

0111 1001

+ 0011 1011

1011 0100

In this case, x-y = 1011 0100

However, because x is positive and y is negative (or -y is positive, too), x+(-y) shouldn’t have a sign bit of 1, which indicates the overflow

4.

**int** **main**() {

**int** a, b, c;

**printf**("Enter an integer:\n");

**scanf**("%d", &a);

**printf**("Enter an integer:\n");

**scanf**("%d", &b);

c = 0; // product, initialized as 0.

**int** bMinusOne = 0;

**int** bZero=(b&0x0001);

**for**(**int** i=0;i<16;i++){

**if**(bMinusOne==1 && bZero==0){

c=c+a;}

**else** **if** (bMinusOne == 0 && bZero == 1) {

c = c - a;}

a=a << 1;

bMinusOne = bZero;

b=b>>1;

bZero=(b&0x0001);

}

// your code goes here

**printf**("the product = %d\n", c);

}