

**Problem 1:**

1. What is the result in R0 after the following instruction is executed?

LDR r0, =0x13  
// Sets r0 to  $(19)_{10}$  or  $(13)_{16}$

2. What is the result in R1 after the following instruction is executed?

LDR r1, =0x07  
// Sets r1 to  $(07)_{10}$  or  $(07)_{16}$

3. What is the result in R2 after the following instruction is executed?

ADD r2, r0, r1  
// Sets r2 to  $(26)_{10}$  or  $(1A)_{16}$

4. What is the result in R2 after the following instruction is executed?

EOR r3, r0, r1  
// Sets r3 to  $(20)_{10}$  or  $(14)_{16}$

5. How many times will the following instruction execute?

EOR r3, r0, r1  
// Executes 5 times

6. How many times will the following instruction execute?

B endless  
// Infinite

**Problem 2:**

What are the values in r0, r1, r2, and r3 after 100 steps?

R0 = 0  
R1 = 1  
R2 = 14  
R3 = 4

**Problem 3:**

1. What are the values in r0, r1, r2, and r3 after 100 steps?

R0 = 0

R1 = 1

R2 = 14

R3 = 40000

2. What happens differently in this program than in Problem 2?

Shifts the value by 1 bit