

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