

1. What might you say about this loop test? `while(x != 10 || x < 20)`
2. What might you say about this loop? `for(int i = 1; i != 10; ++i)`
3. What does this function compute?

```
int f(int a)
{
    if(a == 0) return 0;
    else if(a % 2 == 1) return 1 + f(a-1);
    else return f(a/2);
}
```

4. Does the following recursion terminate? For what parameter value(s)?

```
int g(int a)
{
    if(a > 0) return g(a/2 - 3*a/2);
    else if(a < 0) return g(a+1);
    else return 0;
}
```

5. Does the following recursion terminate? For what parameter value(s)?

```
int foo(int a)
{
    if(a == 1024) return 1;
    else if(a % 2 == 0) return foo(a + 1);
    else return foo(a - 2);
}
```