

1. What are the following binary numbers' equivalents in base-10?

(a) 1001

(b) 100101

(c) 110011

(d) 00011

(e) 0010

(f) 10101

(g) 1111

2. What does *functionA*(5) return?

```
def functionA(n):
    if n == 1:
        return 3
    else:
        return 2 * functionA(n-1)
```

3. What does *functionB*(3) return?

```
def functionB(n):
    if n == 0:
        return 1
    else:
        return 4 * functionB(n-1) + 2
```

4. What does *functionC*(2) return?

```
def functionC(n):
    if n == 6:
        return 6
    else:
        return 2 * functionC(n+1)
```

5. What does *functionD*(2) return?

```
def functionD(n):
    if n == 0:
        return 0
    else:
        return 2 * functionD(n+1)
```

6. Using a loop, write a function that takes in two parameters,  $x$  and  $y$ , and returns  $x^y$ :

7. Using recursion, write a function that takes in two parameters,  $x$  and  $y$ , and returns  $x^y$ :