Question 1.
Find the errors in the following if statements:

1. if quarters > 0 then cout << quarters << " quarters";
2. if (1 + x > pow(x, sqrt(2)) y = y + x;
3. if (x = 1) y++; else if (x = 2) y = y + 2;
4. if (x and y == 0) cout << x << y;
5. if ( 1 <= x <= 10 ) { cout << "Enter y: "; cin >> y; }

Question 2.
Explain the difference between

```cpp
if ( x > 0 ) s++;
if ( y > 0 ) s++;
```

and

```cpp
if ( x > 0 ) s++;
else if ( y > 0 ) s++;
```

Question 3.
How often do the following loops execute? Assume the i is not changed in the loop body.

(a.) for (int i = 1; i <= 10; i++) . . .
(b.) for (int i = 0; i < 10; i++) . . .
(c.) for (int i = 10; i > 0; i--) . . .
(d.) for (int i = -10; i <= 10; i++) . . .
(e.) for (int i = 10; i >= 0; i++) . . .
(f.) for (int i = -10; i <= 10; i = i + 2) . . .
(g.) for (int i = -10; i <= 10; i = i + 3) . . .

Question 4.
Rewrite the following for loop into a while loop.

```cpp
int s = 0;
for( int i = 1; i <= 10; i++)
    s = s + i;
```
Question 5.
What are the values of s and n after the following loops?
(a.)

```java
int s = 1;
int n = 1;
while ( s < 10 )
    s = s + n;
    n++;
```

(b.)

```java
int s = 1;
for( int n = 1; n < 5; n++ )
    s = s + n;
```