1. Consider the following function which is invoked with a call of \texttt{foo(5, -1, -4)}

```java
public static int foo(int a, int b, int c) {
    if (b > c) {
        if (c > 0) {
            System.out.println("A");
            a = c + b;
        } else if (b > 0) {
            System.out.println("B");
            b = c-b;
            return 1;
        } else if (a < 0) {
            System.out.println("C");
            c = 2;
            return 2;
        } else {
            System.out.println("D");
            a = 15;
        }
    } else {
        System.out.println("E");
        b = a + c;
    }
    System.out.println("F");
    c = b * b;
    return -4;
}
```

(a) (4 points) What does this function \textbf{print}?

\begin{center}
\textbf{Solution:} D \\
E \\
a: 15 b: 11 c: -4
\end{center}

(b) (1 point) What value does this function \textbf{return}?
2. (3 points) Which one of the following is/are true statement(s) about variables in Java programming? Circle all that are correct.

A. We cannot declare a local variable and a parameter variable with the same identifier in the same scope.
B. We cannot declare a parameter variable and a class variable with the same identifier in the same scope.
C. If we declare a local variable with the same identifier as a class variable, all further references to the identifier will refer to the local variable.
D. If we declare a local variable with the same identifier as a class variable, all further references to the identifier will refer to the class variable.
E. If a class variable is shadowed, we can access it using the fully qualified name in the form of ClassName.varName.
F. If a class variable is shadowed, we can access it using the fully qualified name in the form of varName-shadow.

3. For each fragment of code below, give the output of the code. If the code would result in an infinite loop, you may write “infinite loop” and give the first 3 outputs.

(a) (2 points)
```
int x = 10;
while( x >= 2) {
    System.out.println(x);
    x = x / 2;
}
```

Solution: 10, 5, 2

(b) (3 points)
```
int x = 4;
while( x < 10 ) {
    System.out.println(x);
    if (x % 2 == 0) {
        x = x - 3;
    } else {
        x = x + 2;
    }
}
```
Solution: Infinite loop: 4, 1, 3, 0, etc

(c) (2 points)
for(int x = 2; x != 10; x+=2) {
    System.out.println(x);
}

Solution: 4, 6, 8, 10