Problem FC-11 (3 parts) Compound Logical Predicates

Part A: Turn this doubly nested if statement into a single if-then-else statement using a compound predicate.

```
if not(x<3)
   if (y!=100)
      z = 50;
   else z = 20;
else z = 20;
```

```
if ((x<3)||(y==100))
   z = 20;
else
   z = 50;
```

Part B: Write a single C statement that corresponds to the following MIPS code. Assume $1 holds A, $2 holds B, and $3 holds C. Do not use an if-then-else.

```
        beq $1, $0, False
        beq $2, $0, False
        addi $3, $0, 1
        j Continue
False:  addi $3, $0, 0
Continue: …
```

```
C = A && B;
```

Part C: Draw a control flow graph for the following C fragment. Assume blocks A, B, C, and D contain several C statements. Use proper control flow graph notation.

```
if (X == Y) {
block A;
if (N != M)
if (J == K)
Block B;
else
Block C;
else
Block D;
}
```