Problem FC-3 (3 parts)  

**Part A:** Write the C code fragment that corresponds to this control flow graph. Use the appropriate looping construct. Where possible, compress nested if-then-else constructs into a flat if-then-else using compound logical predicates.

```c
for (J=100; J > 0; J -= 2)
    if (V[J] > Min && (V[J] < Max || Flag == OK))
        Y[J] = J / 10;
    else
        X[J] = 10 * J;
```

**Part B:** Write a single C statement that corresponds to the following MIPS code. Assume $1$ holds $A$, $2$ holds $B$, $3$ holds $C$, and $4$ holds $D$. *Do not use an if-then-else.*

```c
D = C || (A && B);
```

**Part C:** Turn this nested if-then-else statement into a flat compound predicate if-then-else statement which uses only basic operators (such as $==$ and $!=$) and logical $\&\&$ and $||$ operators.

```c
if (P && (Q || (R && S)))
    A;
else B;
```