Problem FC-6 (3 parts)  

Flow Control

Part A Draw a flow diagram for the following C code fragment. Be sure to draw the control flow determined by the compound predicate.

```c
i = 0;
y = 100;
do {
    x = A(i);
i++;
    if S(i)
        break;
    if (Q(x) || R(x))
        continue;
y = B(x);
} while (P(i));
x = D(i);
```

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**Flow Diagram**

```plaintext
i = 0  
y = 100  

x = A(i)  
i++  
S(i)

Q(x)

R(x)

y = B(x)

P(i)

x = D(i)
```
**Part B** It is good programming style to avoid breaks and continues whenever possible. Write a C code fragment that is equivalent to the code fragment above but without using a `continue` statement.

```c
i = 0;
y = 100;
do {
    x = A(i);
i++;
    if S(i)
        break;
    if (not(Q(x) || R(x)))
        y = B(x);
} while (P(i));
x = D(i);
```

**Part C** Write a C code fragment that is equivalent to the code fragment above but without using `continue` or `break` statements. Hint: You may introduce a new boolean variable.

```c
int temp;
i = 0;
y = 100;
do {
    x = A(i);
i++;
    temp = S(i);
    if (!temp && (not(Q(x) || R(x))))
        y = B(x);
} while (!temp && P(i));
x = D(i);
```