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SER 316 Assignment 3

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Task 3:

The screenshot shows the Eclipse IDE interface. The top toolbar includes icons for File, Edit, Source, Refactor, Navigate, Search, Project, Run, Window, and Help. Below the toolbar is a tabbed editor showing several Java files: Alcohol.java, *Cart.java, calcCostTest.java, Dairy.java, FrozenFood.java, Main.java, and Meat.java. The *Cart.java file is selected and displays the following code:

```
26 *
27 * @return double totalCost
28 * @throws UnderAgeException
29 */
30 public double calcCost() throws UnderAgeException {
31     double subTotal = 0;
32     int savings = 0;
33     int produce = 0;
34     int produceDealCounter = 0;
35     int alcohol = 0;
36     int frozenFood = 0;
37     int alcFroDealCounter = 0;
38     int dairy = 0;
39     int meat = 0;
40
41     //count items and get cost before savings
42     for(int i = 0; i < cart.size(); i++) {
43
44
45
46         if (cart.get(i).getClass() == Produce.class) {
47             produce++;
48             subTotal = subTotal + cart.get(i).getCost();
49
50             if((produce % 3) == 0) {
51                 produceDealCounter++;
52             }
53         }
54         else if (cart.get(i).getClass() == Alcohol.class) {
55             alcohol++;
56             subTotal = subTotal + cart.get(i).getCost();
57             if (userAge < 21) {
58                 throw new UnderAgeException("The User is not of age to purchase alcohol!");
59             }
60         }
61         else if (cart.get(i).getClass() == FrozenFood.class) {
62             frozenFood++;
63             subTotal = subTotal + cart.get(i).getCost();
64         }
65         else if (cart.get(i).getClass() == Dairy.class) {
66             dairy++;
```

On the left side, the 'JUnit' tab is active, showing the execution results of the test. The text 'Finished after 0.014 seconds' is displayed. Below this, the test results are shown as a list of 10 successful runs, each taking 0.000 seconds:

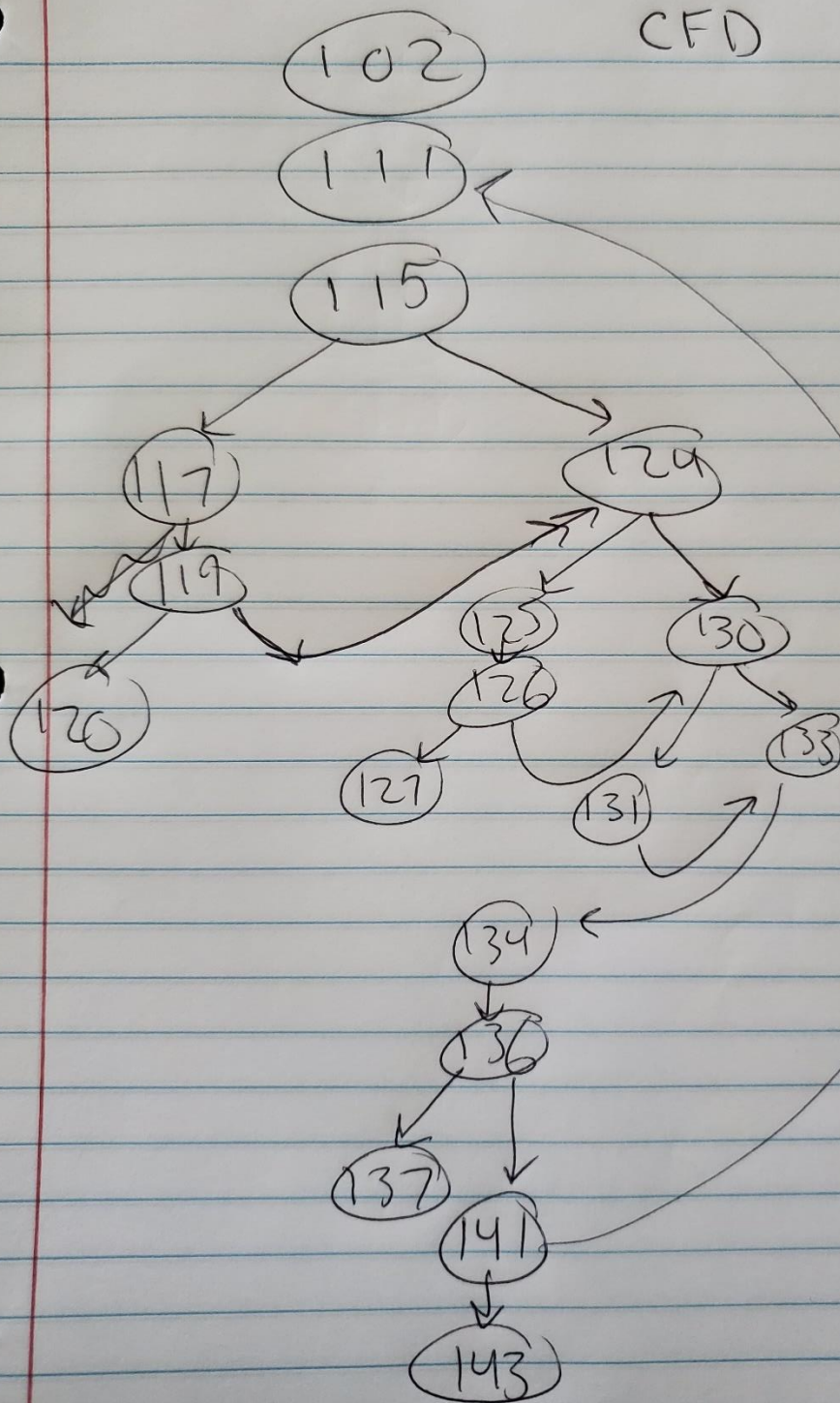
- test.java.calcCostTest [Runner: JUnit 4] (0.000 s)
- calcCostCart1 (0.000 s)
- calcCostCart2 (0.000 s)
- calcCostCart3 (0.000 s)
- calcCostCart4 (0.000 s)
- calcCostCart5 (0.000 s)
- calcCostCart6 (0.000 s)
- calcCostCart7 (0.000 s)
- calcCostCart8 (0.000 s)
- calcCostCart9 (0.000 s)
- calcCostCart10 (0.000 s)

At the bottom, the 'Failure Trace' tab is visible, but it is currently empty.

Control Flow Diagram:

amount Saved ()

CFD



Node Coverage:

Cart Size	Produce Count	Alcohol Count	Frozen Food Count	Dairy Count	Age
≥ 1	3	1	1	1	21
≥ 1	3	1	1	1	18

Edge Coverage:

Cart Size	Produce Count	Alcohol Count	Frozen Food Count	Dairy Count	Age
≥ 1	3	1	1	1	21
0	0	0	0	0	*
≥ 1	1	1	1	1	21
≥ 1	0	0	1	0	21
≥ 1	0	1	1	0	18

Task 4:

