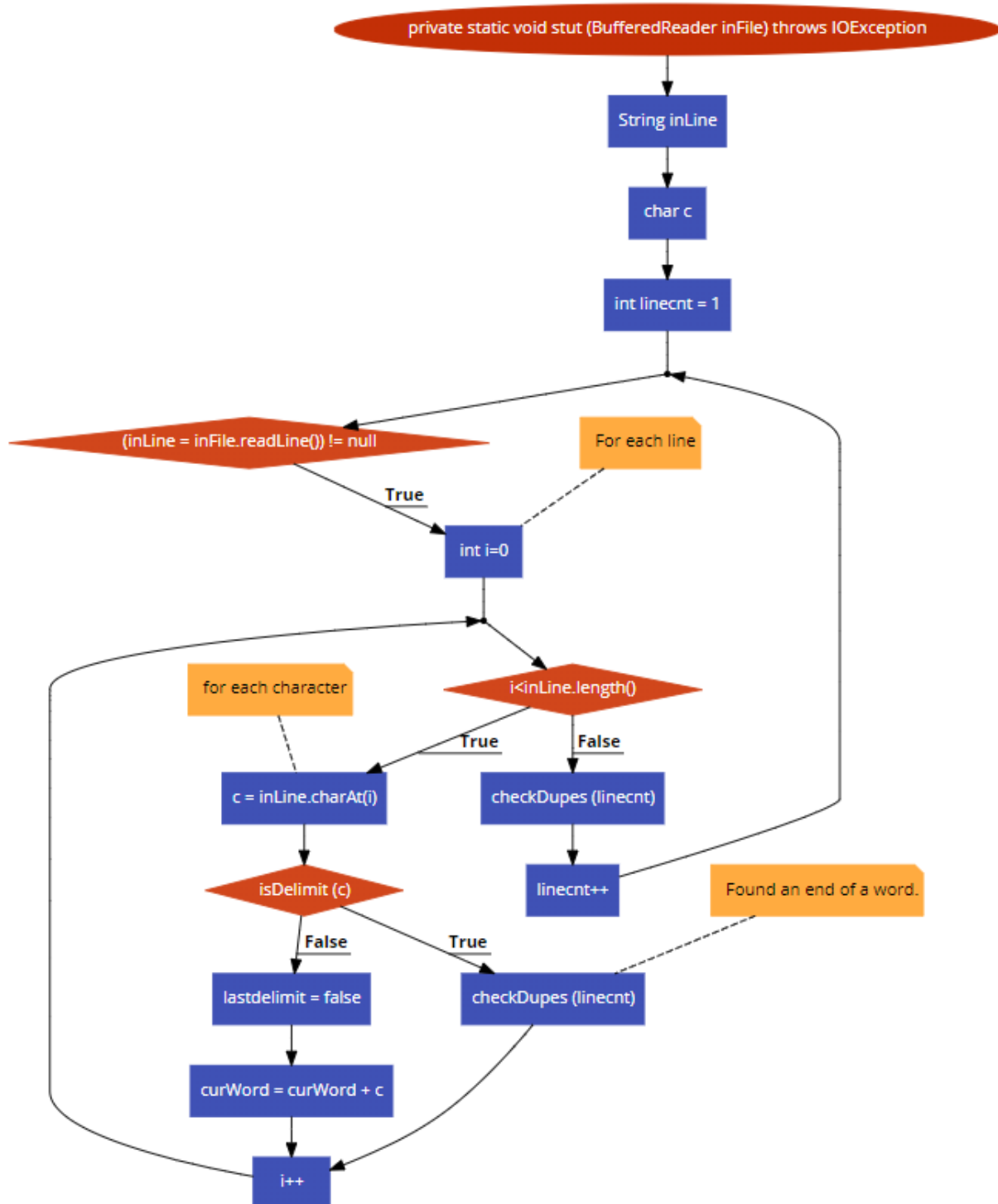
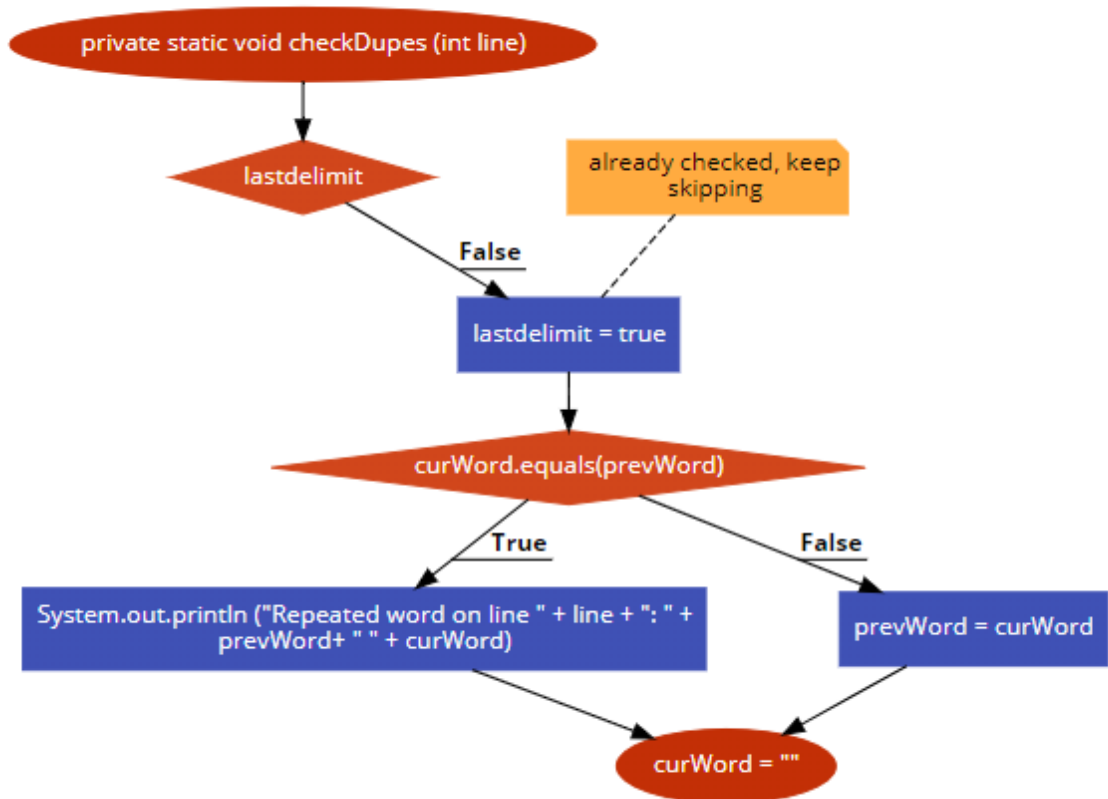


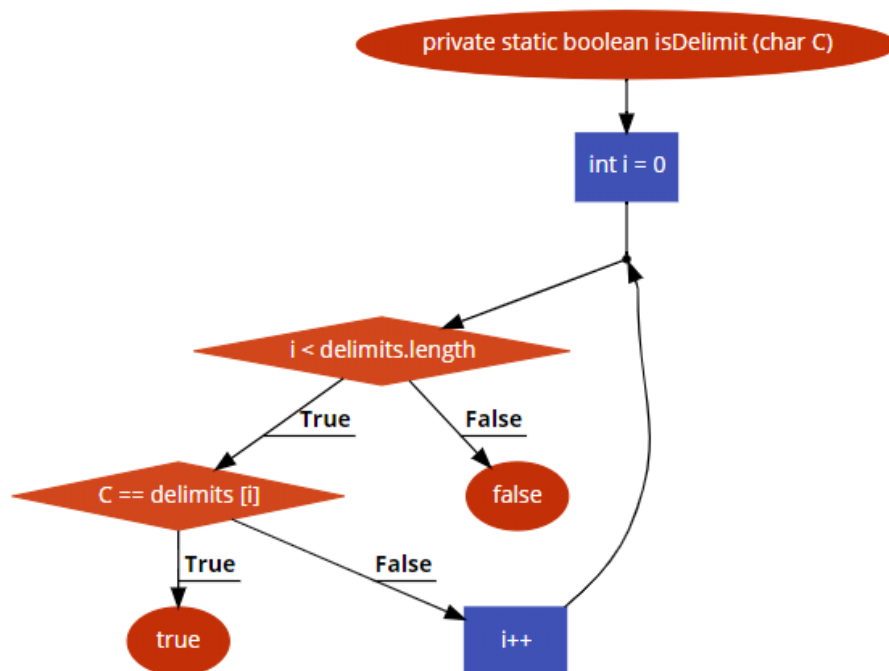
Stut:



checkDups:



isDelimit:



(b) List all the call sites.

Stut:

```
public static void main (String[] args) throws IOException
{
    String fileName;
    FileReader myFile;
    BufferedReader inFile = null;

    if (args.length == 0)
    { // no file, use stdin
        inFile = new BufferedReader (new InputStreamReader (System.in));
    }
    else
    {
        fileName = args [0];
        if (fileName == null)
        { // no file name, use stdin
            inFile = new BufferedReader (new InputStreamReader (System.in));
        }
        else
        { // file name, open the file.
            myFile = new FileReader (fileName);
            inFile = new BufferedReader (myFile);
        }
    }

    stut (inFile);
}
```

checkDupes:

```
private static void stut (BufferedReader inFile) throws IOException
{
    String inLine;
    char c;
    int linecnt = 1;
    while ((inLine = inFile.readLine()) != null)
    { // For each line

        for (int i=0; i<inLine.length(); i++)
        { // for each character
            c = inLine.charAt(i);

            if (isDelimit (c))
            { // Found an end of a word.
                checkDupes (linecnt);
            }
            else
            {
                lastdelimit = false;
                curWord = curWord + c;
            }
        }
        checkDupes (linecnt);
        linecnt++;
    }
} // end Stut
```

isDelimit:

```
private static void stut (BufferedReader inFile) throws IOException
{
    String inLine;
    char c;
    int linecnt = 1;
    while ((inLine = inFile.readLine()) != null)
    { // For each line

        for (int i=0; i<inLine.length(); i++)
        { // for each character
            c = inLine.charAt(i);

            if (isDelimit (c))
            { // Found an end of a word.
                checkDupes (linecnt);
            }
            else
            {
                lastdelimit = false;
                curWord = curWord + c;
            }
        }
        checkDupes (linecnt);
        linecnt++;
    }
} // end Stut
```

(c) List all coupling du-pairs for each call site.

Stut:

(main(), inFile, 37 行) – (stut(), inFile, 69 行)

(main(), inFile, 44 行) – (stut(), inFile, 69 行)

(main(), inFile, 49 行) – (stut(), inFile, 69 行)

```
35     if (args.length == 0)
36     { // no file, use stdin
37         inFile = new BufferedReader (new InputStreamReader (
            System.in));
38     }
39     else
40     {
41         fileName = args [0];
42         if (fileName == null)
43         { // no file name, use stdin
44             inFile = new BufferedReader (new InputStreamReader (
                System.in));
45         }
46         else
47         { // file name, open the file.
48             myFile = new FileReader (fileName);
49             inFile = new BufferedReader (myFile);
50         }
51     }
52
53     stut (inFile);
```

```
65     {
66         String inLine;
67         char c;
68         int linecnt = 1;
69         while ((inLine = inFile.readLine()) != null)
70         { // For each line
```

checkDupes:

(stut(), linecnt, 78 行) – (checkDupes(), line, 103 行)

```
69         while ((inLine = inFile.readLine()) != null)
70     ▼       { // For each line
71
72             for (int i=0; i<inLine.length(); i++)
73     ▼       { // for each character
74                 c = inLine.charAt(i);
75
76                 if (isDelimit (c))
77                 { // Found an end of a word.
78                     checkDupes (linecnt);
79                 }
80                 else
81     ▼       {
82                     lastdelimit = false;
83                     curWord = curWord + c;
84                 }
85             }
86         checkDupes (linecnt);
87         linecnt++;
88
89     }
```

```
102         lastdelimit = true;
103         if (curWord.equals(prevWord))
104         {
105             System.out.println ("Repeated word on line " + line + ": "
106                 +
107                 | | | | | | | | | | prevWord+ " " + curWord);
108         }
109         else
110         {
111             prevWord = curWord;
112         }
113         curWord = "";
```

isDelimit:

(stut(), c, 76 行) – (isDelimit (), c, 121 行)

```
69         while ((inLine = inFile.readLine()) != null)
70     ▼     { // For each line
71
72             for (int i=0; i<inLine.length(); i++)
73     ▼     { // for each character
74                 c = inLine.charAt(i);
75
76                 if (isDelimit (c))
77                 { // Found an end of a word.
78                     checkDupes (linecnt);
79                 }
80                 else
81     ▼     {
82                     lastdelimit = false;
83                     curWord = curWord + c;
84                 }
85             }
86         checkDupes (linecnt);
87         linecnt++;
88
89     }
```

```
118     private static boolean isDelimit (char C)
119     ▼     {
120     ▼     for (int i = 0; i < delimits.length; i++)
121             if (C == delimits [i])
122                 return (true);
123             return (false);
124     }
```

(d) Create test data to satisfy All-Coupling Use Coverage for

Stut:

狀況一：在 main 中，args.length == 0

使用者輸入檔名: inFile = “test”

執行 stut(“test”)

輸出：在 test 檔案中，第幾行有重複的 word

狀況二：在 main 中，args.length > 0 且 args[0] == null

使用者輸入檔名: inFile = “test”

執行 stut(“test”)

輸出：在 test 檔案中，第幾行有重複的 word

狀況二：在 main 中，args.length > 0 且 args[0] != null

執行 stut(args[0])

輸出：在 args[0]的檔案中，第幾行有重複的 word

checkDupes:

狀況一:該行的 word 未出現過，prevWord=curWord="hello"

執行 checkDupes(linecnt)

結果：curWord = ""

狀況二:該行的 word 出現過，prevWord="hi", curWord="hello"

執行 checkDupes(linecnt)

結果：在該行有重複的 word 出現，並顯示重複的 word

#####

isDelimit:

狀況一：該字元為 delimit，c=','

執行 isDelimit (c)

結果：回傳 true

狀況一：該字元為 delimit，c='a'

執行 isDelimit (c)

結果：回傳 false