

```

18 }
19
20
21
22 @Test
23 public void testGetPrerequisitePath() throws IOException {
24     tool t=new tool();
25     StringBuffer s=new StringBuffer();
26     BufferedReader f;
27     f=new BufferedReader(new InputStreamReader(new FileInputStream("coen_course.gph")));
28     GraphS G=new GraphS();
29     COEN c=new COEN(t.createGraph(f,G));
30
31
32     Out=c.getPrerequisitePath("COEN 352");
33     System.out.println(Out);
34     assertTrue(Out.contains("COEN 243"));
35
36     assertTrue(Out.contains("COEN 244"));
37
38     assertTrue(Out.contains("MATH 204"));
39
40     assertTrue(Out.contains("COEN 231"));
41 }
42
43
44
45 @Test
46 public void testGetIsPrerequisite() throws IOException {
47     tool t=new tool();
48     StringBuffer s=new StringBuffer();
49     BufferedReader f;
50     f=new BufferedReader(new InputStreamReader(new FileInputStream("coen_course.gph")));
51     GraphS G=new GraphS();
52     COEN c=new COEN(t.createGraph(f,G));
53     assertEquals(c.isPrerequisite("COEN 243", "COEN 352"),true);
54     assertEquals(c.isPrerequisite("COEN 311", "COEN 352"),false);
55     assertEquals(c.isPrerequisite("COEN 244", "COEN 352"),true);
56     assertEquals(c.isPrerequisite("MATH 204", "COEN 352"),true);
57     assertEquals(c.isPrerequisite("ENGR 290", "COEN 352"),false);
58 }
59
60

```

Problems Javadoc Declaration Console Coverage  
 <terminated> test (5) [JUnit] D:\jdk\bin\javaw.exe (2022年12月10日 下午10:18:34 - 下午10:18:34) [pid: 5508]  
 MATH 204 COEN 231 COEN 243 COEN 244 COEN 352

Table 1 test for COEN352

```

17 Out = null;
18 }
19
20
21
22 @Test
23 public void testGetPrerequisitePath() throws IOException {
24     tool t=new tool();
25     StringBuffer s=new StringBuffer();
26     BufferedReader f;
27     f=new BufferedReader(new InputStreamReader(new FileInputStream("coen_course.gph")));
28     GraphS G=new GraphS();
29     COEN c=new COEN(t.createGraph(f,G));
30
31
32     Out=c.getPrerequisitePath("COEN 490");
33     System.out.println(Out);
34
35     assertEquals(Out,"MATH 204 ENGR 290 SOEN 341 ENGR 301 ENGR 371 "
36         + "COEN 212 COEN 231 COEN 243 COEN 244 "
37         + "COEN 311 COEN 352 COEN 390 COEN 490 ");
38
39 }
40
41
42
43
44 @Test
45 public void testGetIsPrerequisite() throws IOException {
46     tool t=new tool();
47     StringBuffer s=new StringBuffer();
48     BufferedReader f;
49     f=new BufferedReader(new InputStreamReader(new FileInputStream("coen_course.gph")));
50     GraphS G=new GraphS();
51     COEN c=new COEN(t.createGraph(f,G));
52     assertEquals(c.isPrerequisite("ENGR 371", "COEN 490"),true);
53     assertEquals(c.isPrerequisite("SOEN 341", "COEN 490"),true);
54     assertEquals(c.isPrerequisite("ENGR 301", "COEN 490"),true);
55     assertEquals(c.isPrerequisite("COEN 231", "COEN 490"),true);
56     assertEquals(c.isPrerequisite("COEN 243", "COEN 490"),true);
57 }
58
59

```

Problems Javadoc Declaration Console Coverage  
 <terminated> test (5) [JUnit] D:\jdk\bin\javaw.exe (2022年12月10日 下午10:22:35 - 下午10:22:37) [pid: 18356]  
 MATH 204 ENGR 290 SOEN 341 ENGR 301 ENGR 371 COEN 212 COEN 231 COEN 243 COEN 244 COEN 311 COEN 352 COEN 390 COEN 490

Table 2 test for COEN490

The screenshot shows an IDE with a Java file named `main.java`. The code defines a `main` method that reads a graph file `coen_course.gph` and prints prerequisite paths for COEN 352, COEN 490, and COEN 433. It also includes a course name map.

```

5
6 public static void main(String[] args) throws IOException {
7     tool t=new tool();
8     StringBuffer s=new StringBuffer() ;
9     BufferedReader f;
10    f=new BufferedReader(new InputStreamReader(new FileInputStream("coen_course.gph")));
11    GraphS G=new GraphS();
12    t.createGraph(f,G);
13    COEN c=new COEN(G);
14    System.out.println(c.getPrerequisitePath("COEN 352"));
15    c=new COEN(G);
16    System.out.println(c.getPrerequisitePath("COEN 490"));
17    c=new COEN(G);
18    System.out.println(c.getPrerequisitePath("COEN 433"));
19    System.out.println(c.isPrerequisite("COEN 243", "COEN 352"));
20    System.out.println(c.isPrerequisite("COEN 212", "COEN 352"));
21
22    /*
23     * HERE IS THE COURSE NAME MAP;
24     * getPrerequisitePath(String s),s HAS TO BE EXACTLY SAME STRING;
25     Courses[0]="MATH 204";
26     Courses[1]="ENGR 290";
27     Courses[2]="ELEC 311";
28     Courses[3]="SOEN 341";
29     Courses[4]="ELEC 372";
30     Courses[5]="ENGR 301";
31     Courses[6]="ENGR 371";
32     Courses[7]="COEN 212";
33     Courses[8]="COEN 231";
34     Courses[9]="COEN 243";
35     Courses[10]="COEN 244";
36     Courses[11]="COEN 311";
37     Courses[12]="COEN 313";
38     Courses[13]="COEN 316";
39     Courses[14]="COEN 317";
40     Courses[15]="COEN 320";
41     Courses[16]="COEN 346";
42     Courses[17]="COEN 352";
43     Courses[18]="COEN 366";
44     Courses[19]="COEN 390";
45     Courses[20]="COEN 413";
46     Courses[21]="COEN 415";
47     Courses[22]="COEN 421";

```

The console output shows the results of the program execution:

```

<terminated> main (1) [Java Application] D:\jdk\bin\javaw.exe (2022年12月10日 下午10:24:33 - 下午10:24:34) [pid: 17804]
MATH 204 COEN 231 COEN 243 COEN 244 COEN 352
MATH 204 ENGR 290 SOEN 341 ENGR 301 ENGR 371 COEN 212 COEN 231 COEN 243 COEN 244 COEN 311 COEN 352 COEN 390 COEN 490
MATH 204 COEN 212 COEN 243 COEN 244 COEN 433
true
true

```

Table 3 Manually testing