CSCE 747 - Data Flow Testing Activity
Name(s):

Identify all DU Pairs in the following code:

```
1.
2.  /* External file hex_values.h defined Hex_Values[128]
3.  * with value 0 to 15 for the legal hex digits
4.  * and value -1 for each illegal digit including special
5.  * characters */
6.
7.  #include "hex_values.h"
8.  /** Translate a string from the CGI encoding to plain
9.  * acsii text. '+' becomes space, %xx becomes byte with hex
10. * value xx, other alphanumeric characters map to themselves
11. * Returns 0 for success, positive for erroneous input.
12. * 1 = bad hexadecimal digit.
13. */
14. int cgi_decode(char *encoded, char *decoded){
15.          char *eptr = encoded;
16.          char *dptr = decoded;
17.          int ok = 0;
18.          while(*eptr){
19.                char c;
20.                c = *eptr;
21.
22.                if(c =='+'){ /* Case 1: '+' maps to blank*/
23.                      *dptr = ' ';
24.                } else if(c == '%'){       /* Case 2: '%xx' = char xx*/
25.                      int digit_high = Hex_Values[*(++eptr)];
26.                      int digit_low = Hex_Values[*(++eptr)];
27.                      if(digit_high == -1 || digit_low == -1){
28.                            /* *dptr='?' */
29.                            ok = 1; /* Bad return code */
30.                      }else{
31.                            *dptr = 16 * digit_high + digit_low;
32.                      }
33.                }else{ /*Case 3: All other chars map to themselves*/
34.                      *dptr = *eptr;
35.                }
36.                ++dptr;
37.                ++eptr;
38.          }
39.          *dptr = '\0';
40.          return ok;
41.    }
```