

This screenshot shows the Visual Studio Code editor with a C program open. The Explorer sidebar on the left lists various files, including '51.AssignmentQ8Incomplete.c' which is currently selected. The main editor area displays the code for this file. The program includes `<stdio.h>` and defines a `main` function. It prompts the user to 'Enter the Number:' and reads the input into `duplicateNumber`. A `while` loop processes the number by repeatedly dividing it by 10, storing the remainder in an array. A second `for` loop then iterates through the array to count the frequency of each digit (0-9). The code is as follows:

```
1 #include <stdio.h>
2 int main()
3 {
4     int number, duplicateNumber, count = 0;
5     printf("Enter the Number: ");
6     scanf("%d", &number);
7     duplicateNumber = number;
8     while (duplicateNumber != 0)
9     {
10         duplicateNumber /= 10;
11         count++;
12     }
13     int array[count], remainder, i = 0, j = 0, temp = 0;
14     int frequencyarray[] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 0}, frequencyCount = 0;
15     duplicateNumber = number;
16     while (duplicateNumber != 0)
17     {
18         remainder = duplicateNumber % 10;
19         array[i] = remainder;
20         duplicateNumber /= 10;
21         i++;
22     }
23     for (i = 0; i < count; i++)
24     {
25         for (j = 0; j < count; j++)
26         {
27             if (array[i] < array[j])
28             {
29                 temp = array[i];
30                 array[i] = array[j];
31                 array[j] = temp;
32             }
33         }
34     }
35     for (i = 0; i < 10; i++)
36     {
37         for (j = 0; j < count; j++){
38             if(frequencyarray[i]==array[j]){
39                 frequencyCount++;
40             }
41         }
42     }
```

This screenshot shows the continuation of the C program from the previous image. It completes the frequency counting logic and adds a `printf` statement to display the frequency of a specific digit. The code is as follows:

```
43     }
44     for (i = 0; i < 10; i++)
45     {
46         for (j = 0; j < count; j++){
47             if(frequencyarray[i]==array[j]){
48                 frequencyCount++;
49             }
50         }
51     }
52     printf("Frequency of %d digit is: %d\n",frequencyarray[i],frequencyCount);
53     frequencyCount=0;
54 }
```

