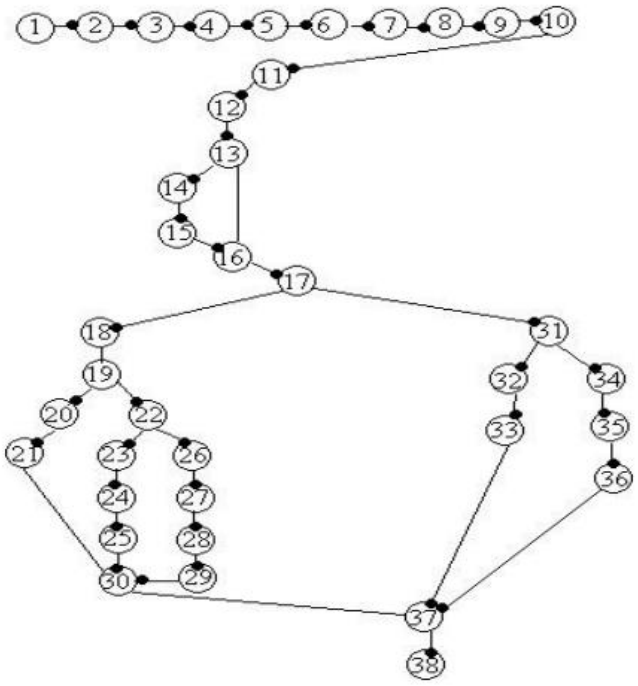
Experiment 10: Perform Data Flow Testing on the program for quadratic equation program.

Solution:

```
#include<iostream>
#include<math.h>
using namespace std;
int main()
{
	int a, b, c, d, boolean = 0;
	double D;
	cout << endl << "Enter a coefficient: ";
cin >> a;
cout << endl << "Enter b coefficient: ";
cin >> b;
cout << endl << "Enter c coefficient: ";
cin >> c;
if ((a >= 0) && (a <= 100) && (b >= 0) && (b <= 100) && (c >= 0) && (c <= 100)) {
boolean = 1;
if (a == 0) {
boolean = -1;
}
if (boolean == 1) {
d = (b * b) - (4 * a * c);
if (d == 0) {
cout << "Roots are equal";
} else if (d > 0)
{D = sqrt(d);
cout << "Roots are real";
} else
{}
else {}
D = sqrt(-d) / (2 * a);
cout << "Roots are imaginary";
cout << "Not a quadratic equation";
} else {}
}
}
cout <<  "Invalid inpuy”;
```

Control Flow Graph:



Output:

```
Enter a coefficient: 2

Enter b coefficient: 4

Enter c coefficient: 2
Roots are equal
--------------------------------
Process exited after 8.331 seconds with return value 0
Press any key to continue . . .
```

```
Enter a coefficient: 1

Enter b coefficient: 5

Enter c coefficient: 2
Roots are real
--------------------------------
Process exited after 21.19 seconds with return value 0
Press any key to continue . . .
```

```
Enter a coefficient: 5

Enter b coefficient: 2

Enter c coefficient: 3
Roots are imaginary
--------------------------------
Process exited after 5.557 seconds with return value 0
Press any key to continue . . .
```