Experiment 6: Write a program to read three sides of a triangle and determine whether they form scalene, isosceles or equivalent triangle and test it using cause effect testing techniques.

Solution:

```
#include <stdio.h>
int main(){
  int sidea, sideb, sidec;
while(1){
printf("\nInput three sides of triangle: ");
scanf("%d %d %d", &sidea, &sideb, &sidec);
if(sidea==sideb && sideb==sidec){
printf("This is an equilateral triangle.\n");
}
else if(sidea==sideb || sidea==sidec || sideb==sidec) {
printf("This is an isosceles triangle.\n");
}
Else{
printf("This is a scalene triangle.\n");
}
}
return 0;
}
```

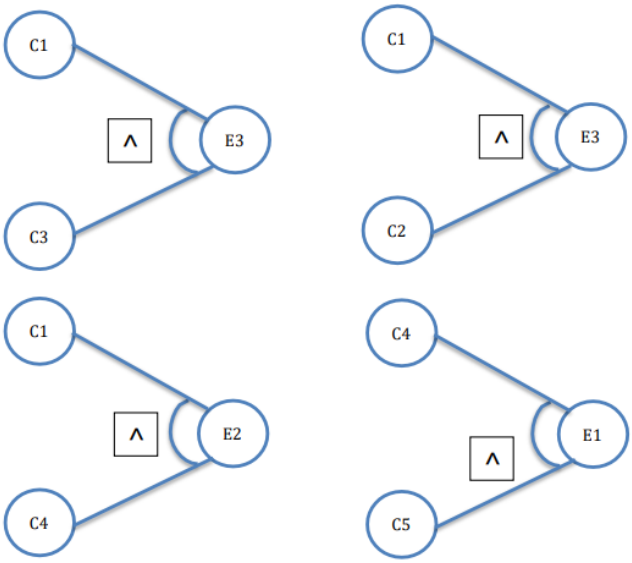
Causes:

C1: Side x is equal to side y
C2: Side x is equal to side z
C3: Side z is equal to side y
C4: Side z not equal to y C5:
Side x not equal to y C6:
Side x not equal to z

Effects:

E1: Scalene Triangle E2:
Isosceles Triangle E3:
Equilateral Triang

Cause-Effect Graphing:



Decision table:

Case	x	y	z	Expected Output	Actual Output
1	50	50	50	Equilateral	Equilateral
2	50	50	60	Isosceles	Isosceles
3	3	4	5	Scalene	Scalene
4	3	2	2	Isosceles	Isosceles
5	2	3	2	Isosceles	Isosceles
6	10	10	10	Equilateral	Equilateral
7	8	9	10	Scalene	Scalene

Output:

```
Input three sides of triangle: 50 50 50
This is an equilateral triangle.

Input three sides of triangle: 50 50 60
This is an isosceles triangle.

Input three sides of triangle: 3 4 5
This is a scalene triangle.

Input three sides of triangle: 3 2 2
This is an isosceles triangle.

Input three sides of triangle: 2 3 2
This is an isosceles triangle.

Input three sides of triangle: 10 10 10
This is an equilateral triangle.

Input three sides of triangle: 1 1 1
This is an equilateral triangle.

Input three sides of triangle: 8 9 10
This is a scalene triangle.
```