ROBDD

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Test 1 Results

```
In [8]: eq = 'a+b+c'
        eq2 = '(!y&x)+(y&!x)'
```
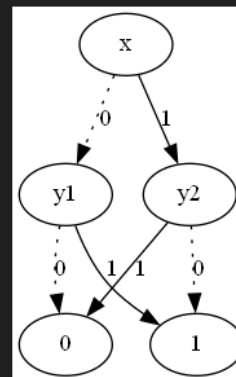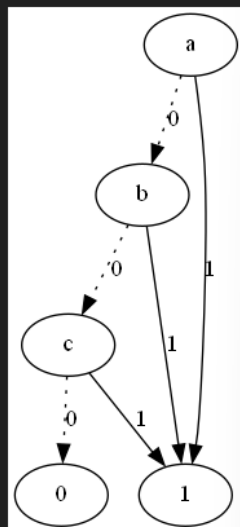
```
Values for which expression is satisfied: {'a': True, 'b': False, 'c': False}
There are 7 variations that satisfy the equation
===============================
| u | i |  l  |  h  |
===============================
  0    4    -1    -1
-------------------------------
  1    4    -2    -2
-------------------------------
  c    2    0     1
-------------------------------
  b    1    c     1
-------------------------------
  a    0    b     1
-------------------------------
Values for which expression is satisfied: {'x': True, 'y': False}
There are 2 variations that satisfy the equation
===============================
| u | i |  l  |  h  |
===============================
  0    3    -1    -1
-------------------------------
  1    3    -2    -2
-------------------------------
  y1   1    0     1
-------------------------------
  y2   1    1     0
-------------------------------
  x    0    y1    y2
-------------------------------
Both Functions are not Equivalent
```

Test Case 2 Results

```
In [14]: eq= '(!x & !y&z) + (!x&!y&!z) + (x&!y&!z) + (x&y&!z)'
         eq2= '(x & ! z) + (! x & ! y)'
```
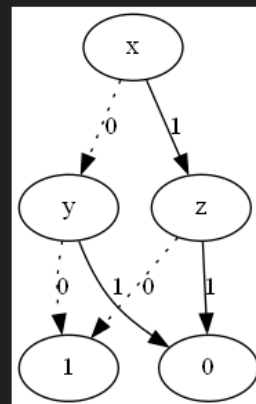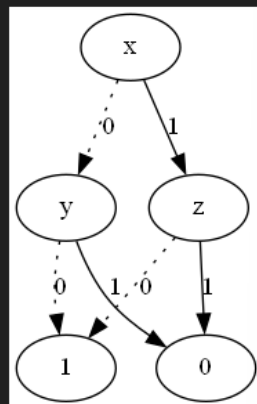
```
Values for which expression is satisfied: {'x': False, 'y': False, 'z': False}
There are 4 variations that satisfy the equation
==============================
|  u  |  i  |  l  |  h  |
==============================
   0     4    -1    -1
------------------------------
   1     4    -2    -2
------------------------------
   y     1     1     0
------------------------------
   z     2     1     0
------------------------------
   x     0     y     z
------------------------------
Values for which expression is satisfied: {'x': False, 'y': False, 'z': False}
There are 4 variations that satisfy the equation
==============================
|  u  |  i  |  l  |  h  |
==============================
   0     4    -1    -1
------------------------------
   1     4    -2    -2
------------------------------
   y     1     1     0
------------------------------
   z     2     1     0
------------------------------
   x     0     y     z
------------------------------
Both Functions are Equivalent
```

Test Case 3 Results

```
1st Boolean Function a&b&!c
2nd Boolean Function a+g+h&f&c&!e
Values for which expression is satisfied: {'a': True, 'b': True, 'c': False}
There are 1 variations that satisfy the equation
===========================
| u  |  i  |  l  |  h  |
===========================
  0     4    -1    -1
---------------------------
  1     4    -2    -2
---------------------------
  c     2     1     0
---------------------------
  b     1     0     c
---------------------------
  a     0     0     b
---------------------------
Values for which expression is satisfied: {'a': True, 'c': False, 'e': False, 'f': False, 'g': False, 'h': False}
There are 49 variations that satisfy the equation
===========================
| u  |  i  |  l  |  h  |
===========================
  0     7    -1    -1
---------------------------
  1     7    -2    -2
---------------------------
  g1    4     0     1
---------------------------
  h     5     0     1
---------------------------
  g2    4     h     1
---------------------------
  f     3    g1    g2
---------------------------
  e     2     f    g1
---------------------------
  c     1    g1    e
---------------------------
  a     0     c     1
---------------------------
Both Functions are not Equivalent
```