**Sufyan Ahmed w14025337 05/02/2015**

**if** (!( (i>0) && (j>0) && (k>0) ))

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (i>0) | (j>0) | (k>0) | ((i>o)&&(j>0)&&(k>0)) |
| 1 | T | T | T | T |
| 2 | T | T | F | F |
| 3 | T | F | T | F |
| 4 | T | F | F | F |
| 5 | F | T | T | F |
| 6 | F | T | F | F |
| 7 | F | F | T | F |
| 8 | F | F | F | F |

|  |  |  |  |
| --- | --- | --- | --- |
| i | j | k |  |
| 1 | 1 | 1 | 1 |
| 1 | 1 | 0 | 2 |
| 1 | 0 | 1 | 3 |
| 1 | 0 | 0 | 4 |
| 0 | 1 | 1 | 5 |
| 0 | 1 | 0 | 6 |
| 0 | 0 | 1 | 7 |
| 0 | 0 | 0 | 8 |

**if** ((i>=j+k) || (j>=k+i) || (k>=i+j))

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | (i>=j+k) | (j>=k+i) | | (k>=i+j) | ((i>=j+k)||(j>=k+i)||(k>=i+j)) | | |  |
| 9 | T | T | | T | T | | | NOT POSSIBLE |
| 10 | T | T | | F | T | | | NOT POSSIBLE |
| 11 | T | F | | T | T | | | NOT POSSIBLE |
| 12 | T | F | | F | T | | |  |
| 13 | F | T | | T | T | | | NOT POSSIBLE |
| 14 | F | T | | F | T | | |  |
| 15 | F | F | | T | T | | |  |
| 16 | F | F | | F | F | | |  |
|  |  |  | |  |  | | |  |
| i | | | j | | | k |  | |
| 2 | | | 1 | | | 1 | 12 | |
| 1 | | | 2 | | | 1 | 14 | |
| 1 | | | 1 | | | 2 | 15 | |
| 1 | | | 1 | | | 1 | 16 | |

|  |  |
| --- | --- |
|  | (i==j) |
| 17 | T |
| 18 | F |
|  | (j==k) |
| 19 | T |
| 20 | F |
|  | (k==i) |
| 21 | T |
| 22 | F |
|  | (match==0) |
| 23 | T |
| 24 | F |
|  | (match==1) |
| 25 | T |
| 26 | F |

|  |  |  |  |
| --- | --- | --- | --- |
| I | j | k |  |
| 1 | 1 | 0 | 17,20,22,25 |
| 0 | 1 | 1 | 18,19,22,24 |
| 1 | 1 | 1 | 17,19,21,24 |
| 0 | 1 | 2 | 18,20,22,23 |

**public** String checkValues(**int** i, **int** j, **int** k)

**{**

**int** match;

**if** (!( (i>0) && (j>0) && (k>0) ))

**return** "\nInvalid sides for triangle \n";

**else**

**if** ((i>=j+k) || (j>=k+i) || (k>=i+j))

**return** "\nNot a triangle\n";

**else**

**{**

match = 0;

**if** (i==j)

match = match + 1;

**if** (j==k)

match = match + 1;

**if** (k==i)

match = match + 1;

**if** (match == 0)

**return** "\nScalene triangle\n";

**else**

**if** (match == 1)

**return** "\nIsoceles triangle\n";

**else**

**return** "\nequilateral triangle\n";

|  |  |  |  |
| --- | --- | --- | --- |
| I | J | K | Assignment Numbers |
| 0 | 1 | 2 | 18, 20, 22, 23 |
| 1 | 1 | 2 | 15 |
| 1 | 0 | 1 | 3 |
| 1 | 0 | 0 | 4 |
| 0 | 1 | 1 | 5, 18, 19, 22, 24, 25 |
| 0 | 1 | 0 | 6 |
| 0 | 0 | 1 | 7 |
| 0 | 0 | 0 | 8 |
| 2 | 1 | 1 | 12, |
| 1 | 2 | 1 | 14 |
| 1 | 1 | 0 | 2, 17, 20, 22, 24, 25 |
| 1 | 1 | 1 | 1, 16, 17, 19, 21, 24, 25 |