Connected component analysis

t						s
u		*	*	*		
		*	p	*		
		*	*	*		
	q					r

Two pass method

First pass:

1	0	0	0	0	0	1
1	0	1	1	1	0	0
0	0	1	1	1	0	0
0	0	1	1	1	0	0
0	0	0	0	0	0	0
0	1	0	0	0	0	1

variable x=1;

for(loop through all the rows)

      for(loop through all the columns)

            if(pixel == 1)

                  if(column==0 || previous pixel==x)

                        pixel = x;

                  else

```
            x++;

            pixel = x;
```

output of first pass

1	0	0	0	0	0	2
3	0	4	4	4	0	0
0	0	5	5	5	0	0
0	0	6	6	6	0	0
0	0	0	0	0	0	0
0	7	0	0	0	0	8

Second pass:

for(loop through all the rows except the first one)

      for(loop through all the columns)

            if(pixel != 0) {

                  If(pixel not belongs to first column {

                        If(previous rows pixel is not zero){

                              Copy that number to current pixel

                        }

                        Elseif(previous rows diagonal pixel is not zero) {

                              Copy that number to current pixel

                        }

                        Elseif(left pixel is not zero) {

                              Copy that number to current pixel

                        }

                  }

                  Else{

                        If(previous rows pixel is not zero){

                              Copy that number to current pixel

                        }

```
                    }
              }
        }
```

output of second pass

1	0	0	0	0	0	2
1	0	4	4	4	0	0
0	0	4	4	4	0	0
0	0	4	4	4	0	0
0	0	0	0	0	0	0
0	7	0	0	0	0	8

Maximum counted pixel = 4 (total no is 9)

0	0	0	0	0	0	0
0	0	1	1	1	0	0
0	0	1	1	1	0	0
0	0	1	1	1	0	0
0	0	0	0	0	0	0
0	0	0	0	0	0	0

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