Algorithm 2: Extend

```
input : stroke, img, intersection
output: stroke
visit = [[0] * len(img)for_inrange(len(img))];
Function RegionalExpansion(i, j):
    if −1 < i < len(imgs) and − 1 < j <
     len(imgs[0]) and intersections[i][j] == 0 and img[i][j] ==
     1and visit[i][j] == 0 then
        visit[i][j] = 1;
        if stroke[i][j] == 0 then
            stroke[i][j] = 1;
        end
        RegionalExpansion(i − 1, j);
        RegionalExpansion(i + 1, j);
        RegionalExpansion(i, j − 1);
        RegionalExpansion(i, j + 1);
    end
for i = 0 to len (img) do
    for j = 0 to len (img[0]) do
        if stroke[i][j] == 1 and img[i][j] == 0 then
            stroke[i][j] = 0;
        end
        if stroke[i][j] == 1 and img[i][j] == 1 and visit[i][j] == 0 then
            visit[i][j] = 1;
            RegionalExpansion(i, j);
        end
    end
end
```