

ALGORITHM 68  
AUGMENTATION

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```
real procedure Aug(x,y); value x,y; integer x,y;  
comment This algorithm makes use of the implicitly defined re-  
cursive properties of ALGOL procedures to compute the augment  
of x by y, using the basic technique of incrementation by unit  
step size;  
begin Aug := if x = 0 then (if y > x then (Aug(y - 1, x) + 1)  
  else y)  
else Aug(x - 1, y + 1) end Aug
```

CERTIFICATION OF ALGORITHM 68  
AUGMENTATION (H. G. Rice, *Comm. ACM*, Aug.  
1961)

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AUGMENTATION was transliterated into BALGOL for the Burroughs 220, and proved successful in a number of test cases. However, the following algorithm has exactly the same effect and is considerably simpler:

```
real procedure Aug(x, y); value x, y; integer x, y;  
begin if x < 0 then L : go to L else Aug := x+y end Aug
```