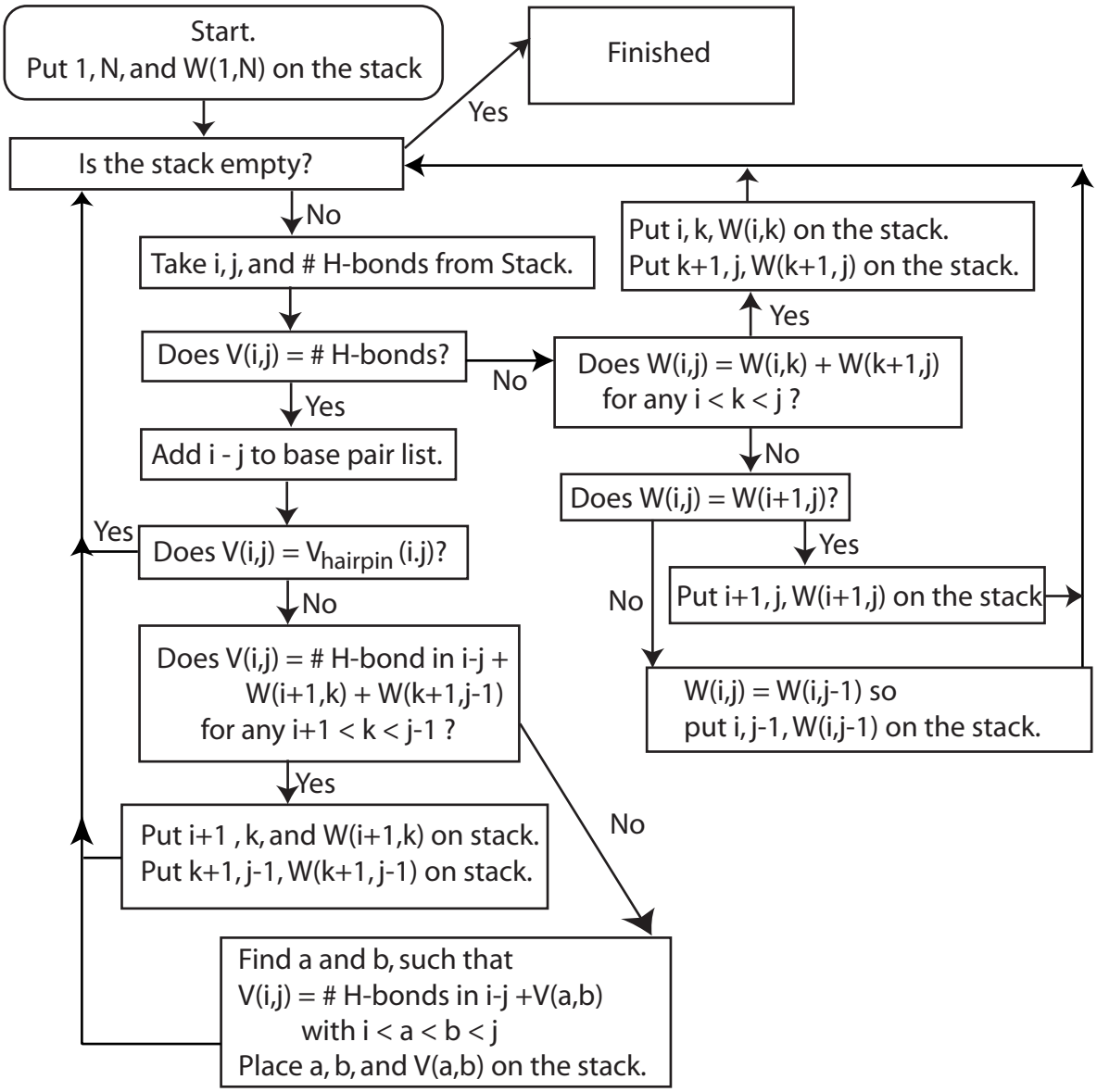
Start.
Put 1, N, and W(1,N) on the stack
Finished
Yes
Is the stack empty?
No
Take i, j, and # H-bonds from Stack.
Put i, k, W(i,k) on the stack.
Put k+1, j, W(k+1, j) on the stack.
Yes
Does V(i,j) = # H-bonds?
No
Does W(i,j) = W(i,k) + W(k+1,j)
for any i < k < j ?
Yes
Add i - j to base pair list.
No
Does W(i,j) = W(i+1,j)?
Yes
Does V(i,j) = V_hairpin (i.j)?
Yes
No
Put i+1, j, W(i+1,j) on the stack
No
Does V(i,j) = # H-bond in i-j +
W(i+1,k) + W(k+1,j-1)
for any i+1 < k < j-1 ?
W(i,j) = W(i,j-1) so
put i, j-1, W(i,j-1) on the stack.
Yes
Put i+1 , k, and W(i+1,k) on stack.
Put k+1, j-1, W(k+1, j-1) on stack.
No
Find a and b, such that
V(i,j) = # H-bonds in i-j +V(a,b)
with i < a < b < j
Place a, b, and V(a,b) on the stack.