Determine values of , from the set {-1, -2, -3, -4, -5} such that the largest sum is made.

The total number of permutations that can be made from 5 distinct integers in .

Because the total number of permutations is so low, it is computationally inexpensive to check every value of w, x, y and z to find the maximum sum.

To do this a modified form of a general recursive permutation algorithm can be used such that it generates sets with four items. This looks like the following.

set *S* = {-1, -2, -3, -4, -5}

sum = 0

set *N* = {};

make\_set(N);

make\_set(set *N*)

if *N*’s size = 4

calculate for elements of set *N*

if > sum, sum =

else

for every element *a* in *S*

append a to N

make\_set(set *N*)

remove last element of *N*

Using this algorithm, it can be determined that the permutation that yields the greatest sum would be a set *N*, where *N* = {-1, -4, -3, -2}. This set *N* gives a sum of 1. or .