```
import java.util.Scanner;
import java.util.Arrays;
class Main
{
   static void swap(int arr[],int start, int end)
   {
      int temp = arr[start];
      arr[start] = arr[end];
      arr[end] = temp;
   }
   static void Sort(int v1[],int n)
   {
      Arrays.sort(v1);
      int c=0;
      while((c<n) && (v1[c] < 0))
      {
         c++;
      }
      int start = c,end = n-1;
      while(start<end)
      {
         swap(v1,start,end);;
         start++;end--;
      }
   }
   static int MinimumScalarProduct(int v1[], int v2[], int n)
   {
      int min,sop=0;
      int id1=0,id2=0;
      for(int i = 0 ; i<n ; i++)
      {
         min = Integer.MAX_VALUE;
         for(int j = i ; j<n ; j++)
         {
            if((v1[i]*v2[j]) < min)
            {
               min = v1[i]*v2[j];
               id1 = i; id2 = j;
            }
         }
         sop = sop + min;
         swap(v1,i,id1);
         swap(v2,i,id2);
      }
      return sop;
   }
   public static void main(String[] args)
   {
      Scanner input = new Scanner(System.in);
      int n = input.nextInt();
      int v1[] = new int[n];
      for(int i = 0 ; i<n ; i++)
      {
         v1[i] = input.nextInt();
      }
```

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        int v2[] = new int[n];
        for(int i = 0 ; i<n ; i++)
        {
            v2[i] = input.nextInt();
        }
        Sort(v1,n);
        System.out.print(MinimumScalarProduct(v1,v2,n));
    }
}
```