```
    end;
    shift := 0·0
  end;
  kon: a[n] := z;
    n := n − 1
end of loop k
end of lager;
```

5. Examples

In general the accuracy of the algorithm is comparable with that of the QR algorithm. Convergence is very fast, three or four iterations per eigenvalue usually being adequate except for pathologically close eigenvalues. It should be stressed that the algorithm is expressly designed to find a comparatively low percentage of the largest or smallest eigenvalues; when a high percentage of eigenvalues is required the QR algorithm is to be preferred.

In order to illustrate that there is no significant loss of accuracy in the case of close eigenvalues, the results obtained with the matrices W_{21}^+ (Wilkinson, 1965) and $W_{21}^+ - 11I$ were computed on the CDC 3300 computer, using single precision floating-point binary computation with $t = 37$. W_{21}^+ is a symmetric tridiagonal matrix with

$$a_i = |11 - i|\,,$$
$$b_i = 1\,.$$

Some pairs of the eigenvalues are pathologically close. Merely for purpose of illustration all computed eigenvalues of both $W_{21}^+ - 11I$ and W_{21}^+ are given in **Table 1** and **Table 2** respectively. They are correct almost to working accuracy, though naturally since the matrices have eigenvalues which are equal to working accuracy the number of iterations is not typical.

Table 1 Computed eigenvalues of $W_{21}^+ - 11I$

−0·2538 0582 2	−5·9997 5557 7
−0·2538 0582 3	−6·0002 1752 4
−1·7893 2135 6	−6·9956 4597 8
−1·7893 2135 7	−7·0039 5180 0
−2·9610 5888 1	−7·9569 0070 8
−2·9610 5888 8	−8·0389 4111 6
−3·9960 4779 3	−8·8697 9078 1
−3·9960 4820 4	−9·2106 7864 8
−4·9997 6597 1	−10·0524 6563 3
−4·9997 8248 0	−10·7461 9418 3
	−12·1254 4152 2

Table 2 Computed eigenvalues of W_{21}^+

10·7461 9417 7	5·0002 4442 3
10·7461 9417 6	4·9997 8247 6
9·2106 7864 3	4·0043 5402 2
9·2106 7864 2	3·9960 4820 0
8·0389 4111 9	3·0430 9929 2
8·0389 4111 2	2·9610 5888 3
7·0039 5220 7	2·1302 0921 9
7·0039 5179 6	1·7893 2135 2
6·0002 3402 9	0·9475 3436 7
6·0002 1752 0	0·2538 0581 7
	−1·1254 4152 2

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Eric Mutch Memorial

Eric Mutch, who, together with Harold Gearing, founded *The Computer Journal*, edited it for the first 12 years of its life, and created for it an international reputation for excellence, died in January 1969. The Publications Committee of The British Computer Society and the Editorial Board of the *Journal* wish to ensure that this excellent and far reaching work will be remembered.

To this end, the *Journal* is instituting a prize, to be offered at suitable intervals, to be known as the 'Eric Mutch Memorial' prize. The prize will have a value of £100 and will be awarded for the best paper to be submitted on a topic nominated by the Editorial Board.

Foremost among the objectives of the Board, when considering the topic to be chosen for the first competition, were the need to emphasise the role of the Society in bringing together the various disciplines involved in computing and the need to demonstrate to all members of the computing profession the relevance of the *Journal* to their work. The chosen topic, which highlights these points, is:

'*How the pioneering work of yesterday relates to the computing practice of today*'

To be eligible a paper must deal with some aspect of this subject and must conform to the usual standards for *Journal* papers. The adjudicators will give preference to broadly based accounts, intelligible to the ordinary computer user in business or industry, tracing some specific concept or concepts from origin to practical application, with references, and commenting on the significance in relation to present computing practice.

All submissions should be sent to the Editor-in-chief to arrive no later than 28 February 1973. Authors need not be members of The British Computer Society. The result of the competition will be announced in the May 1973 issue of the *Journal* and the prize paper, together with all other entries which reach a high standard, will be published in August 1973.