

Bogdan Chwaliński
Zestaw 3 zadanie 8

Wyniki:

w1 =

4.0000

wek1 =

0.4082

0.4082

0.4082

0.4082

0.4082

0.4082

w2 =

3.0000

wek2 =

0.7071

0.0000

0.0000

0.0000

0.0000

-0.7071

Kod matlab:

```
>> A = [ 19/12 13/12 5/6 5/6 13/12 -17/12;  
        13/12 13/12 5/6 5/6 -11/12 13/12;  
        5/6 5/6 5/6 -1/6 5/6 5/6;  
        5/6 5/6 -1/6 5/6 5/6 5/6;  
        13/12 -11/12 5/6 5/6 13/12 13/12;  
        -17/12 13/12 5/6 5/6 13/12 19/12; ];  
>> wekPom = [1;1;1;1;1;1];  
>> zk=wekPom;  
>> yk=wekPom;  
>> precyzja = 0.0001;  
>> zkPop = 0;  
>> while (abs(zk-zkPop)>precyzja)  
zkPop=zk;  
zk=A*yk;  
yk=zk/norm(zk);  
end  
>> w1=norm(zk);  
>> w1
```

w1 =

4.0000

```
>> wek1 = wekPom;  
>> wek2 = wekPom;  
>> [V,D]=eig(A);  
>> V
```

V =

0.5000	-0.2887	-0.0000	-0.0000	0.7071	0.4082
-0.5000	-0.2887	-0.0000	-0.7071	0	0.4082
-0.0000	0.5774	0.7071	0.0000	0.0000	0.4082
-0.0000	0.5774	-0.7071	0.0000	0.0000	0.4082
-0.5000	-0.2887	-0.0000	0.7071	0.0000	0.4082
0.5000	-0.2887	0.0000	0.0000	-0.7071	0.4082

```
>> D
```

D =

```
-2.0000    0    0    0    0    0
    0 -1.0000    0    0    0    0
    0    0  1.0000    0    0    0
    0    0    0  2.0000    0    0
    0    0    0    0  3.0000    0
    0    0    0    0    0  4.0000
```

```
>> wektory = diag(D);
>> wektory
```

wektory =

```
-2.0000
-1.0000
 1.0000
 2.0000
 3.0000
 4.0000
```

```
>> for a=1:length(wektory)
if wektory(a) > (w1-0.001)
wekl = V(:,a);
break;
end
end
>> wekl
```

wekl =

```
0.4082
0.4082
0.4082
0.4082
0.4082
0.4082
```

```
>> zkPop=1;
>> while(abs(zk-zkPop)>precyzja)
end
>> wekl1=wekl';
>> while(abs(zk-zkPop)>precyzja)
zkPop=zk;
zk=A*yk;
zk=zk-wekl*(wekl1*zk);
yk=zk/norm(zk);
end
>> w2=norm(zk);
>> w2
```

w2 =

```
3.0000
```

```
>> for a=1:length(wektory)
if wektory(a) > (w2-0.001)
wek2 = V(:,a);
break;
end
end
>> wek2
```

wek2 =

```
0.7071
0.0000
0.0000
0.0000
```

0.0000
-0.7071

>>