Метод пузырька

Сортировка массива

Алгоритм

```
1. for i := 1 to m - 1 do
2.     for j := 1 to m - i  do
3.       if A[ j ] > A[ j + 1] then begin
4.         k := A[ j ];
5.         A[ j ] := A[ j + 1];
6.         A[ j + 1] := k;
7.       end;
```

1	9	2	4	8	3	5	4	6	10

k

j := 1

i=1

j :=1 to 9

```
if A[1] > A[ 2] then
begin
        k := A[ 1 ];
        A[ 1 ] := A[ 2 ];
        A[ 2 ] := k;
```

1	9	2	4	8	3	5	4	6	10

k

j := 2

i=1

j :=1 to 9

```
if A[ 2 ] > A[ 3 ] then
begin
        k := A[ 2 ];
        A[ 2 ] := A[ 3 ];
        A[ 3 ] := k;
```

1	2	9	4	8	3	5	4	6	10

k

j := 3

i=1

j :=1 to 9

```
if A[ 3 ] > A[ 4 ] then
begin
        k := A[ 3 ];
        A[ 3 ] := A[ 4 ];
        A[ 4 ] := k;
```

1	2	4	9	8	3	5	4	6	10

k

j := 4

i=1

j :=1 to 9

```
if A[ 4 ] > A[ 5 ] then
begin
        k := A[ 4 ];
        A[ 4 ] := A[ 5 ];
        A[ 5 ] := k;
```

1	2	4	8	9	3	5	4	6	10

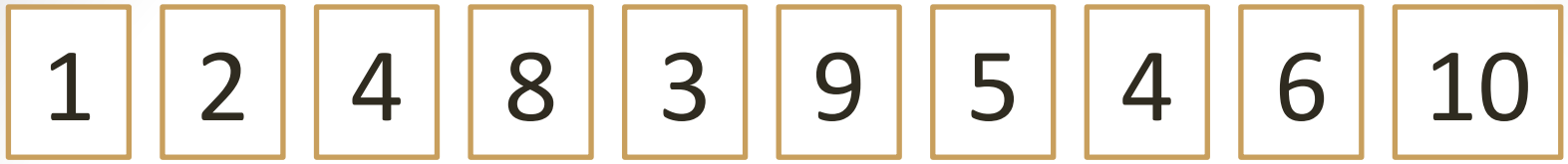
k

j := 5

i=1

j :=1 to 9

```
if A[ 5 ] > A[ 6 ] then
begin
        k := A[ 5 ];
        A[ 5 ] := A[ 6 ];
        A[ 6 ] := k;
```



k

j := 6

i=1

j :=1 to 9

```
if A[ 6 ] > A[ 7 ] then
begin
        k := A[ 6 ];
        A[ 6 ] := A[ 7 ];
        A[ 7 ] := k;
```

1	2	4	8	3	5	9	4	6	10

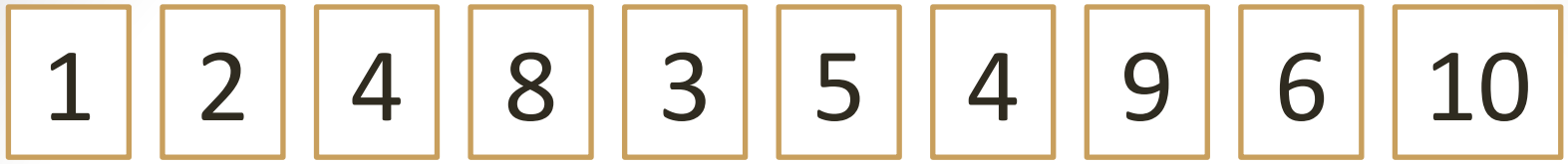
k

j := 7

i=1

j :=1 to 9

```
if A[ 7 ] > A[ 8 ] then
begin
        k := A[ 7 ];
        A[ 7 ] := A[ 8 ];
        A[ 8 ] := k;
```



k

j := 8

i=1

j :=1 to 9

```
if A[ 8 ] > A[ 9 ] then
begin
        k := A[ 8 ];
        A[ 8 ] := A[ 9 ];
        A[ 9 ] := k;
```

1	2	4	8	3	5	4	6	9	10

k

j := 9

i=1

j :=1 to 9

```
if A[ 9 ] > A[ 10 ] then
begin
        k := A[ 9 ];
        A[ 9 ] := A[ 10 ];
        A[ 10 ] := k;
```

1	2	4	8	3	5	4	6	9	10

k

j := 1

i=2

j :=1 to 8

```
if A[ 1 ] > A[ 2 ] then
begin
        k := A[ 1 ];
        A[ 1 ] := A[ 2 ];
        A[ 2 ] := k;
```

1	2	4	8	3	5	4	6	9	10

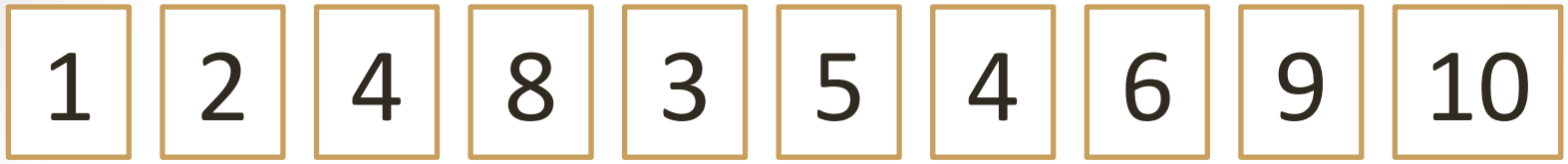
k

j := 2

i=2

j :=1 to 8

```
if A[ 2 ] > A[ 3 ] then
begin
        k := A[ 2 ];
        A[ 2 ] := A[ 3 ];
        A[ 3 ] := k;
```



k

j := 3

i=2

j :=1 to 8

```
if A[ 3 ] > A[ 4 ] then
begin
        k := A[ 3 ];
        A[ 3 ] := A[ 4 ];
        A[ 4 ] := k;
```

1	2	4	8	3	5	4	6	9	10

k

j := 4

i=2

j :=1 to 8

```
if A[ 4 ] > A[ 5 ] then
begin
        k := A[ 4 ];
        A[ 4 ] := A[ 5 ];
        A[ 5 ] := k;
```

1	2	4	3	8	5	4	6	9	10

k

j := 5

i=2

j :=1 to 8

```
if A[ 5 ] > A[ 6 ] then
begin
        k := A[ 5 ];
        A[ 5 ] := A[ 6 ];
        A[ 6 ] := k;
```

1	2	4	3	5	8	4	6	9	10

k

j := 6

i=2

j :=1 to 8

```
if A[ 6 ] > A[ 7 ] then
begin
        k := A[ 6 ];
        A[ 6 ] := A[ 7 ];
        A[ 7 ] := k;
```

1	2	4	3	5	4	8	6	9	10

k

j := 7

i=2

j :=1 to 8

```
if A[ 7 ] > A[ 8 ] then
begin
        k := A[ 7 ];
        A[ 7 ] := A[ 8 ];
        A[ 8 ] := k;
```

1	2	4	3	5	4	6	8	9	10

k

j := 8

i=2

j :=1 to 8

```
if A[ 8 ] > A[ 9 ] then
begin
        k := A[ 8 ];
        A[ 8 ] := A[ 9 ];
        A[ 9 ] := k;
```

1	2	4	3	5	4	6	8	9	10

k

j := 1

i=3

j :=1 to 7

```
if A[ 1 ] > A[ 2 ] then
begin
        k := A[ 1 ];
        A[ 1 ] := A[ 2 ];
        A[ 2 ] := k;
```

1	2	4	3	5	4	6	8	9	10

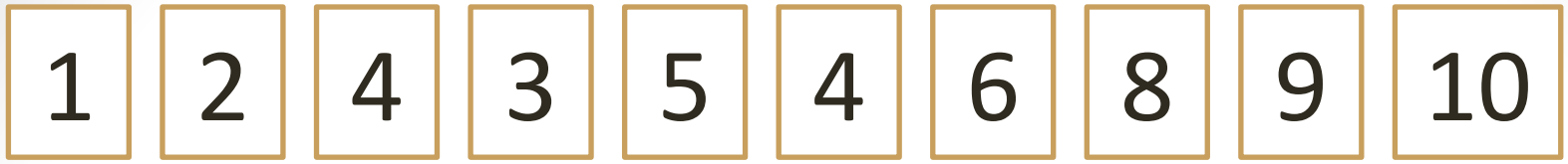
k

j := 2

i=3

j :=1 to 7

```
if A[ 2 ] > A[ 3 ] then
begin
        k := A[ 2 ];
        A[ 2 ] := A[ 3 ];
        A[ 3 ] := k;
```



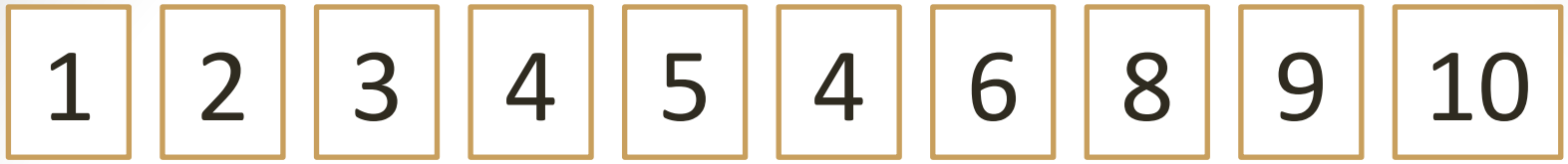
k

j := 3

i=3

j :=1 to 7

```
if A[ 3 ] > A[ 4 ] then
begin
        k := A[ 3 ];
        A[ 3 ] := A[ 4 ];
        A[ 4 ] := k;
```



k

j := 4

i=3

j :=1 to 7

```
if A[ 4 ] > A[ 5 ] then
begin
        k := A[ 4 ];
        A[ 4 ] := A[ 5 ];
        A[ 5 ] := k;
```

1	2	3	4	5	4	6	8	9	10

k

j := 5

i=3

j :=1 to 7

```
if A[ 5 ] > A[ 6 ] then
begin
        k := A[ 5 ];
        A[ 5 ] := A[ 6 ];
        A[ 6 ] := k;
```

k

j := 6

i=3

j :=1 to 7

```
if A[ 6 ] > A[ 7 ] then
begin
        k := A[ 6 ];
        A[ 6 ] := A[ 7 ];
        A[ 7 ] := k;
```

k

j := 7

i=3

j :=1 to 7

```
if A[ 7 ] > A[ 8 ] then
begin
        k := A[ 7 ];
        A[ 7 ] := A[ 8 ];
        A[ 8 ] := k;
```

1	2	3	4	4	5	6	8	9	10

k

j := 1

i=4

j :=1 to 6

```
if A[ 1 ] > A[ 2 ] then
begin
        k := A[ 1 ];
        A[ 1 ] := A[ 2 ];
        A[ 2 ] := k;
```

k

j := 2

i=4

j :=1 to 6

```
if A[ 2 ] > A[ 3 ] then
begin
        k := A[ 2 ];
        A[ 2 ] := A[ 3 ];
        A[ 3 ] := k;
```

1	2	3	4	4	5	6	8	9	10

k

j := 3

i=4

j :=1 to 6

```
if A[ 3 ] > A[ 4 ] then
begin
        k := A[ 3 ];
        A[ 3 ] := A[ 4 ];
        A[ 4 ] := k;
```

k

j := 4

i=4

j :=1 to 6

```
if A[ 4 ] > A[ 5 ] then
begin
        k := A[ 4 ];
        A[ 4 ] := A[ 5 ];
        A[ 5 ] := k;
```

k

j := 5

i=4

j :=1 to 6

```
if A[ 5 ] > A[ 6 ] then
begin
        k := A[ 5 ];
        A[ 5 ] := A[ 6 ];
        A[ 6 ] := k;
```

1	2	3	4	4	5	6	8	9	10

k

j := 6

i=4

j :=1 to 6

```
if A[ 6 ] > A[ 7 ] then
begin
        k := A[ 6 ];
        A[ 6 ] := A[ 7 ];
        A[ 7 ] := k;
```

1	2	3	4	4	5	6	8	9	10

k

j := 1

i=5

j :=1 to 5

```
if A[ 1 ] > A[ 2 ] then
begin
        k := A[ 1 ];
        A[ 1 ] := A[ 2 ];
        A[ 2 ] := k;
```

k

j := 2

i=5

j :=1 to 5

```
if A[ 2 ] > A[ 3 ] then
begin
        k := A[ 2 ];
        A[ 2 ] := A[ 3 ];
        A[ 3 ] := k;
```

1	2	3	4	4	5	6	8	9	10

Программа будет выполнятся до конца цикла для j и для i.

i=5	**j :=1 to 5**
i=6	**j :=1 to 4**
i=7	**j :=1 to 3**
i=8	**j :=1 to 2**
i=9	**j :=1 to 1**
i=10	