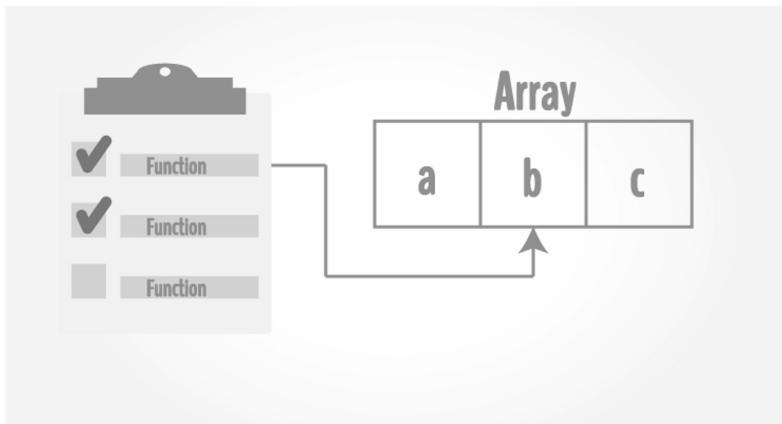


# Diziler

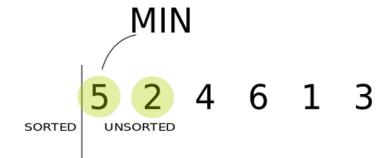


**Suhap SAHIN**  
**Onur GÖK**  
**Fidan Kaya Gülağız**



# Selection Sort

Alt listenin sıralanması



# Selection Sort



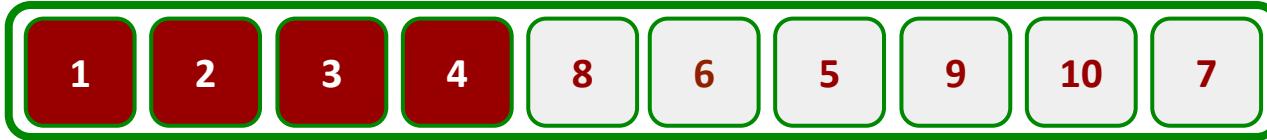
# Selection Sort



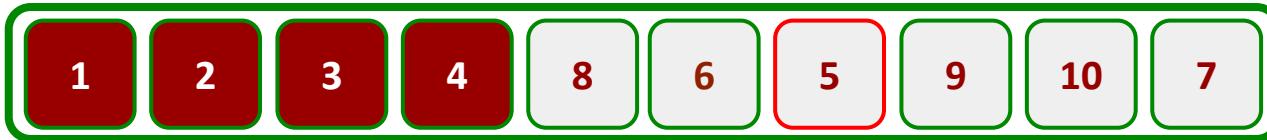
# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort



# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    return 0;
}
```



# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
0



# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
0

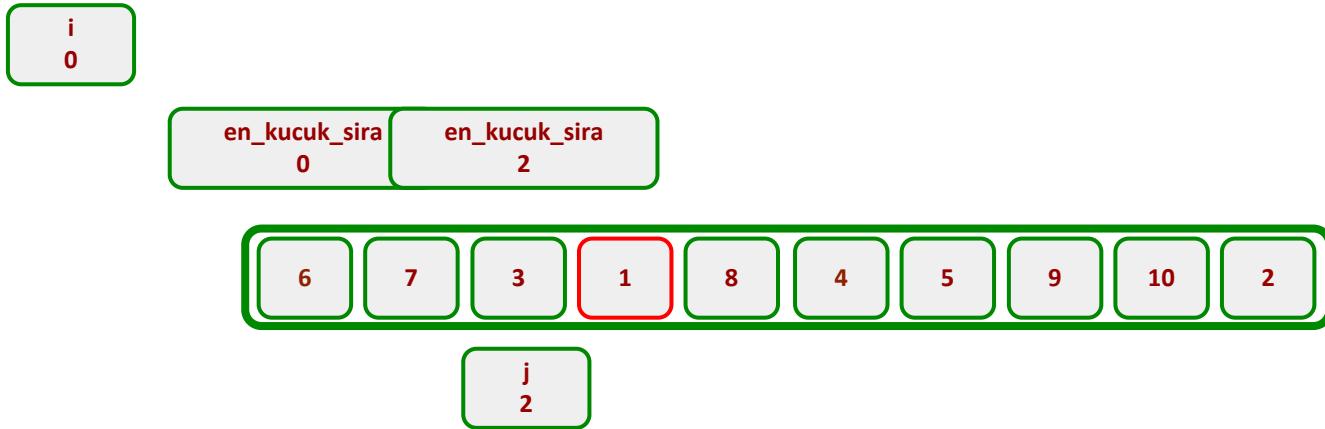


j  
1

$d[j] < d[\text{en\_kucuk\_sira}] (7 < 6)$   
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

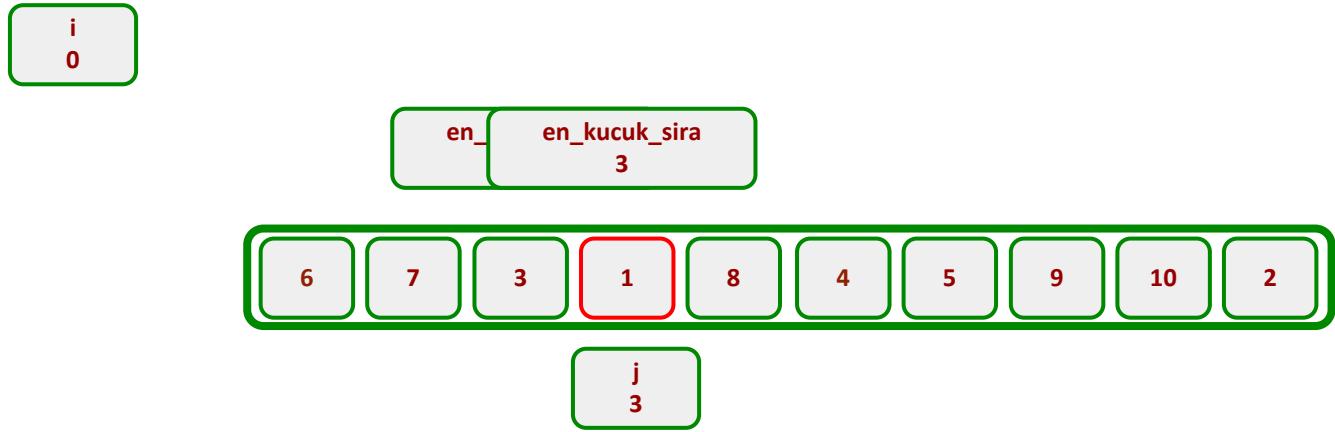
```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $3 < 6$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

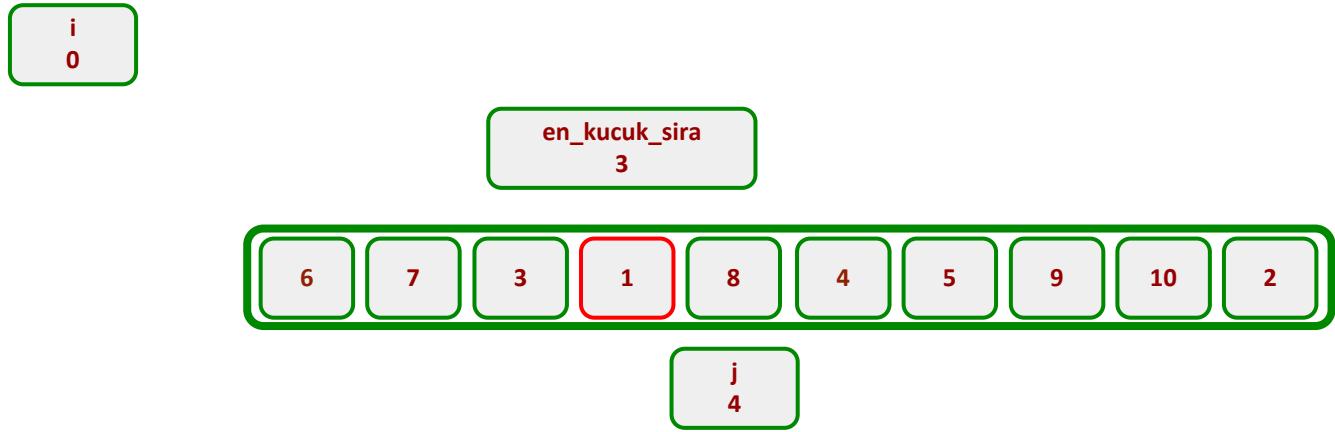
```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $1 < 3$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

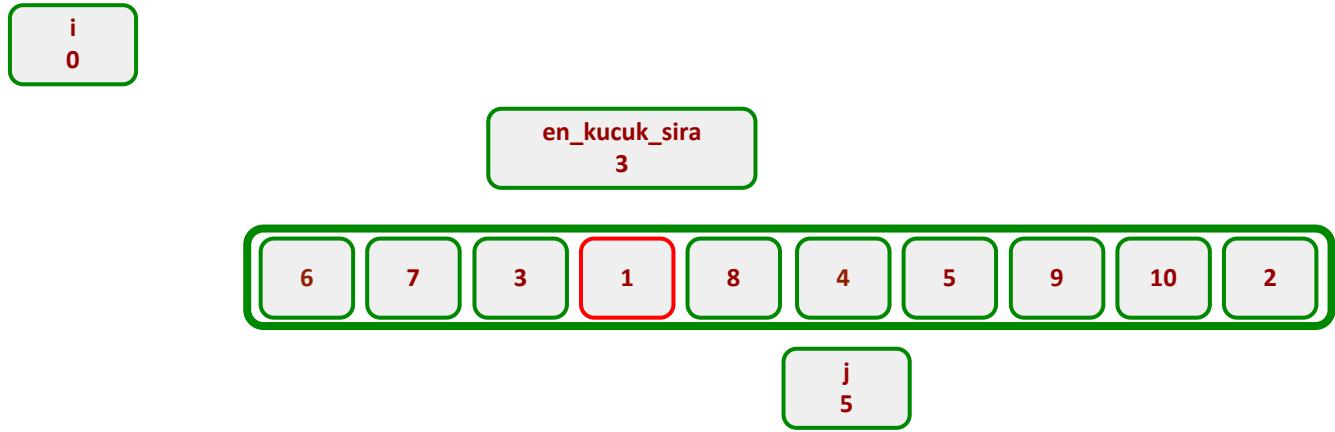
```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $8 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $4 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
3



d[j] < d[en\_kucuk\_sira] (5 < 1)  
en\_kucuk\_sira = j;

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
3



$d[j] < d[\text{en\_kucuk\_sira}] (9 < 1)$   
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
3

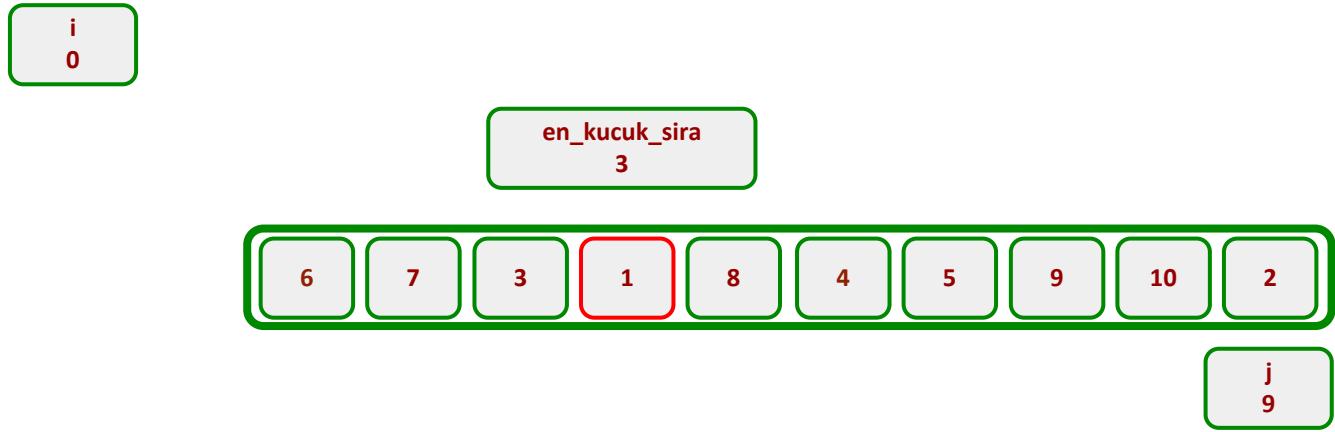


j  
8

$d[j] < d[\text{en\_kucuk\_sira}]$  ( $10 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
    }
    return 0;
}
```

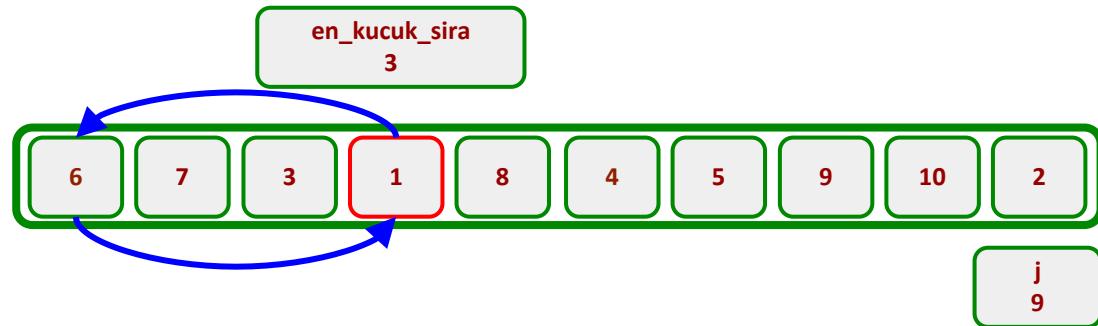


$d[j] < d[\text{en\_kucuk\_sira}]$  ( $2 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
        int tmp = d[i];
        d[i] = d[en_kucuk_sira] ;
        d[en_kucuk_sira] = tmp;
    }
    return 0;
}
```

i  
0



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $2 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
        int tmp = d[i];
        d[i] = d[en_kucuk_sira] ;
        d[en_kucuk_sira] = tmp;
    }
    return 0;
}
```

i  
0

en\_kucuk\_sira  
3



$d[j] < d[\text{en\_kucuk\_sira}]$  ( $2 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# Selection Sort

```
#include <stdio.h>
int main() {
    int d[10] = {6,7,3,1,8,4,5,9,10,2};
    int i,j, en_kucuk_sira;
    for (i = 0 ; i <= 9 ; i++)
        printf("%d ", d[i]);
    printf("\n\n");
    for ( i = 0 ; i <= 8 ; i++) {
        en_kucuk_sira = i;
        for (j = i+1 ; j <= 9 ; j++)
            if (d[j] < d[en_kucuk_sira])
                en_kucuk_sira = j;
        int tmp = d[i];
        d[i] = d[en_kucuk_sira] ;
        d[en_kucuk_sira] = tmp;
        printf("i = %d => ", i);
        for (j = 0 ; j <= 9 ; j++)
            printf("%d ", d[j]);
        printf("\n");
    }
    return 0;
}
```

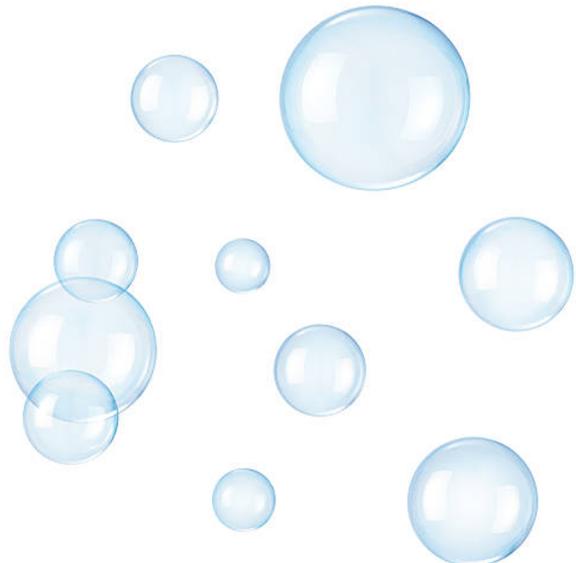
i  
0

en\_kucuk\_sira  
3

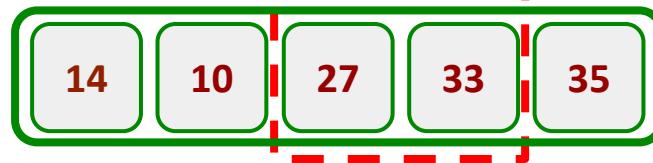
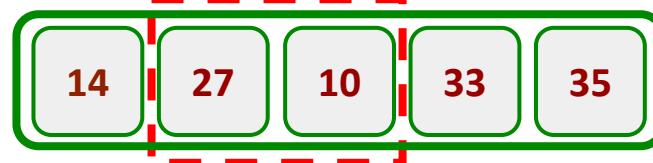
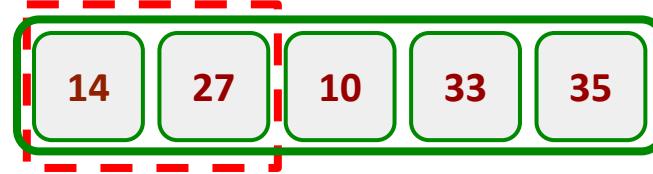
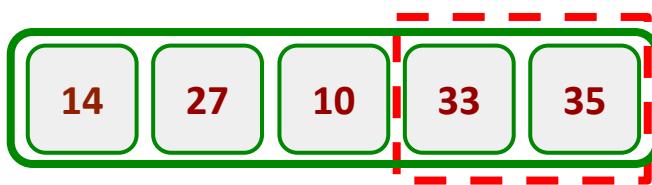
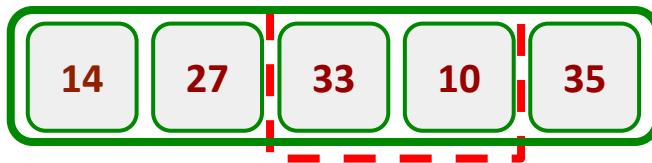
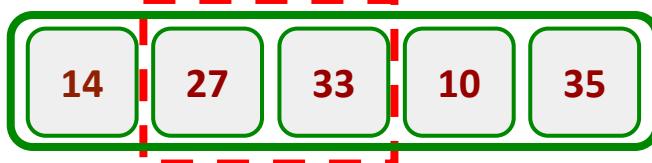
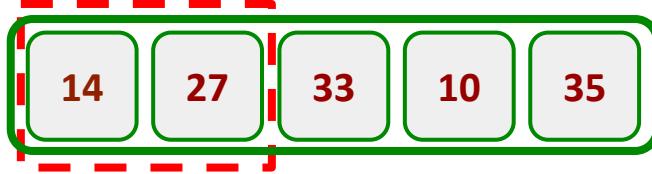


$d[j] < d[\text{en\_kucuk\_sira}]$  ( $2 < 1$ )  
 $\text{en\_kucuk\_sira} = j;$

# kabarcık sıralama



# kabarcık sıralama



# kabarcık sıralama



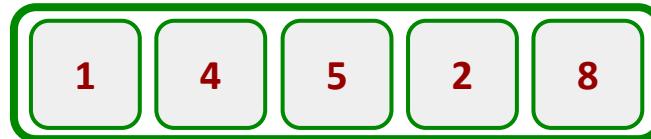
# kabarcık sıralama



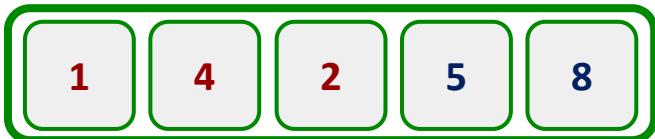
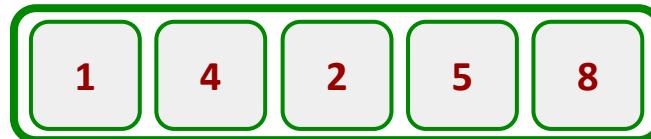
$5 > 1$



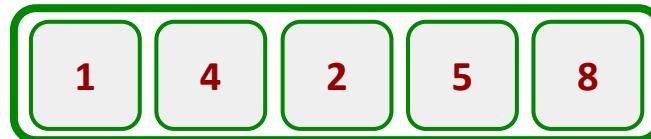
$5 > 4$



$5 > 2$



$5 < 8$



# kabarcık sıralama



$1 < 4$



$4 > 2$



$4 < 5$



# kabarcık sıralama



$1 < 2$



$2 < 4$



$1 < 2$



$1 < 2$



# kabarcık sıralama



$1 < 2$



```
#include <stdio.h>
int main() {
    int n[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int pass, mov;
    int tmp;
    printf("sirasiz hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
    printf("\n");
}
```



```
printf("sirali hali:\n");
for (i = 0 ; i < 10 ; i++)
    printf("%d ", n[i]);
```

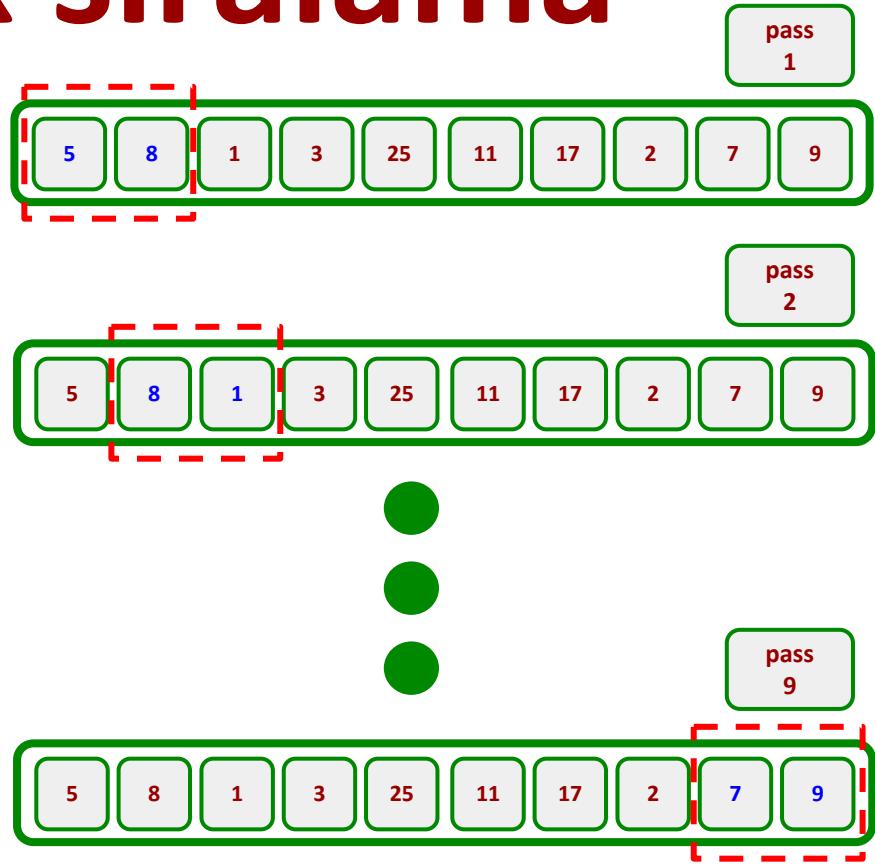
```
#include <stdio.h>
int main() {
    int n[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
```

```
    int pass, mov;
    int tmp;
    printf("sirasiz hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
    printf("\n");
    for ( pass=1 ; pass < 10 ; pass++ ) {
```

```
}
```

```
    printf("sirali hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
```

# kabarcık sıralama



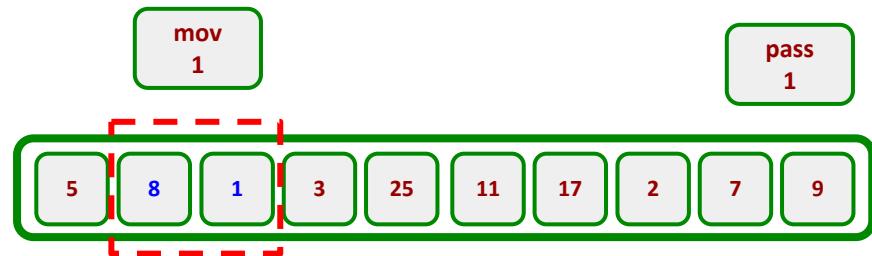
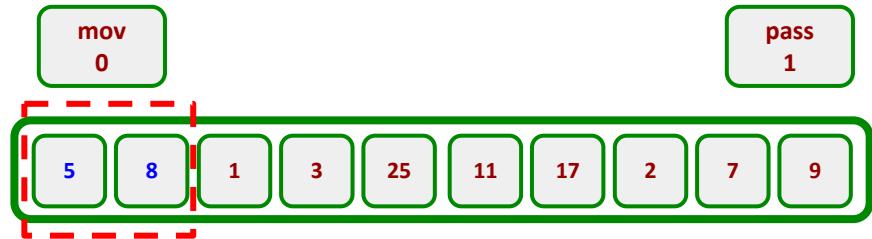
```
#include <stdio.h>
int main() {
    int n[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
```

```
    int pass, mov;
    int tmp;
    printf("sirasiz hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
    printf("\n");
    for ( pass=1 ; pass < 10 ; pass++) {
        for (mov=0 ; mov < 10-1
```

```
; mov++) {
```

```
}
```

```
printf("sirali hali:\n");
for (i = 0 ; i < 10 ; i++)
    printf("%d ", n[i]);
```



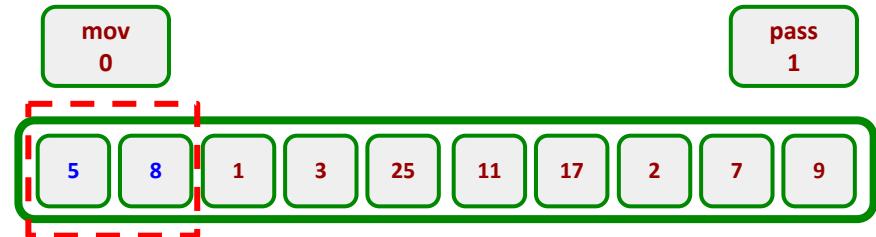
```
#include <stdio.h>
int main() {
    int n[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
```

```
    int pass, mov;
    int tmp;
    printf("sirasiz hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
    printf("\n");
    for ( pass=1 ; pass < 10 ; pass++ ) {
        for (mov=0 ; mov < 10-1
```

```
; mov++) {
```

```
        if (
```

```
n[mov] > n[mov+1] ) {
```



```
}
```

```
}
```

```
    printf("sirali hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
```

```
#include <stdio.h>
int main() {
    int n[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
```

```
    int pass, mov;
    int tmp;
    printf("sirasiz hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", n[i]);
    printf("\n");
    for ( pass=1 ; pass < 10 ; pass++) {
        for (mov=0 ; mov < 10-1
```

```
; mov++) {
```

```
        if (
```

```
n[mov] > n[mov+1] ) {
```

```
            tmp = n[mov];
```

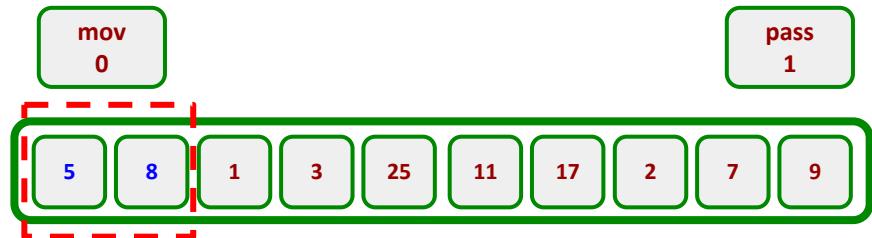
```
            n[mov] = n[mov+1];
```

```
            n[mov+1] = tmp;
```

```
}
```

```
}
```

```
        printf("sirali hali:\n");
        for (i = 0 ; i < 10 ; i++)
            printf("%d ", n[i]);
```



# kabarcık sıralama & fonksiyon

```
#include <iostream>
using namespace std;

int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
```



# kabarcık sıralama & fonksiyon

```
#include <iostream>
using namespace std;

int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
```



# kabarcık sıralama & fonksiyon

```
#include <stdio.h>
void bubble_sort(int d[], int N) {
```

```
}
```

```
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
```



# kabarcık sıralama & fonksiyon

```
#include <stdio.h>
void bubble_sort(int d[], int N) {
    int pass, mov, tmp;
    for ( pass=1 ; pass < N ; pass++ ) {
        }
    }
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
```



# kabarcık sıralama & fonksiyon

```
#include <stdio.h>
void bubble_sort(int d[], int N) {
    int pass, mov, tmp;
    for ( pass=1 ; pass < N ; pass++ ) {
        for (mov=0 ; mov < N-1
; mov++) {
            }
        }
    }
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
```



# kabarcık sıralama & fonksiyon

```
#include <stdio.h>
void bubble_sort(int d[], int N) {
    int pass, mov, tmp;
    for ( pass=1 ; pass < N ; pass++ ) {
        for (mov=0 ; mov < N-1
; mov++) {
            if (
d[mov] > d[mov+1] ) {

                tmp = d[mov];
                d[mov] = d[mov+1];
                d[mov+1] = tmp;
            }
        }
    }
}
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
```



# kabarcık sıralama & fonksiyon

```
#include <stdio.h>
void bubble_sort(int d[], int N) {
    int pass, mov, tmp;
    for ( pass=1 ; pass < N ; pass++ ) {
        for (mov=0 ; mov < N-1
; mov++) {
            if (
d[mov] > d[mov+1] ) {

                tmp = d[mov];
                d[mov] = d[mov+1];
                d[mov+1] = tmp;
            }
        }
    }
}
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7,
9};
    int i;
    bubble_sort(d, 10);
    printf("sirali hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", d[i]);
}
```



```
#include <stdio.h>
void bubble_sort(int d[], int N) {
    int i, j, tmp;
    for (i=1 ; i < N ; i++) {
        for (j=0 ; j < N-1 ; j++) {
            if (d[j] > d[j+1]) {
                tmp = d[j];
                d[j] = d[j+1];
                d[j+1] = tmp;
            }
        }
    }
}
int ikili_ara(int dizi[], int N, int aranan);
int main() {
    int d[10] = {5, 8, 1, 3, 25, 11, 17, 2, 7, 9};
    int i;
    bubble_sort(d, 10);
    printf("sıralı hali:\n");
    for (i = 0 ; i < 10 ; i++)
        printf("%d ", d[i]);
    printf("\n");
    while (1) {
        int aranan;
        printf("aranacak elemanı giriniz:");
        scanf("%d", &aranan);
        int yer = ikili_ara(d, 10, aranan);
        if (yer == -1)
            printf("%d dizide yok\n", aranan);
        else
            printf("%d'nin yeri: %d\n", aranan, yer);
    }
    return 0;
}
int ikili_ara(int dizi[], int N, int aranan) {
    int bas = 0;
    int son = N-1;
    int orta;
    while (bas <= son) {
        orta = (bas + son) / 2;
        if (dizi[orta] == aranan)
            return orta;
        else if (dizi[orta] > aranan)
            son = orta - 1;
        else
            bas = orta + 1;
    }
    return -1;
}
```

# kabarcık sıralama & arama



# *Sorular*

