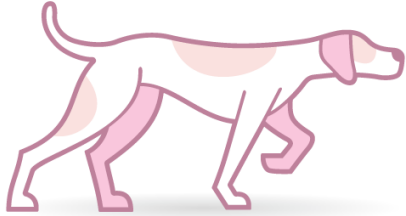


Pointer



Gömülü Sistemler Laboratuvarı

Hafıza Yerlesimi

```
#include<stdio.h>
```

```
int main () {
```

```
    int toplam = 150;
```

```
    short int yas = 17;
```

```
    double ortalama = 14;
```

```
    printf("toplam: %d\n", toplam);
```

```
    printf("yas: %d\n", yas);
```

```
    printf("ortalama: %f\n",
```

```
    ortalama);
```

```
    return 0;
```

```
}
```

Hafıza Yerlesimi

```
#include<stdio.h>
```

```
int main () {
```

```
    int toplam = 150;
```

```
    short int yas = 17;
```

```
    double ortalama = 14;
```

```
    printf("toplam: %d\n", toplam);
```

```
    printf("yas: %d\n", yas);
```

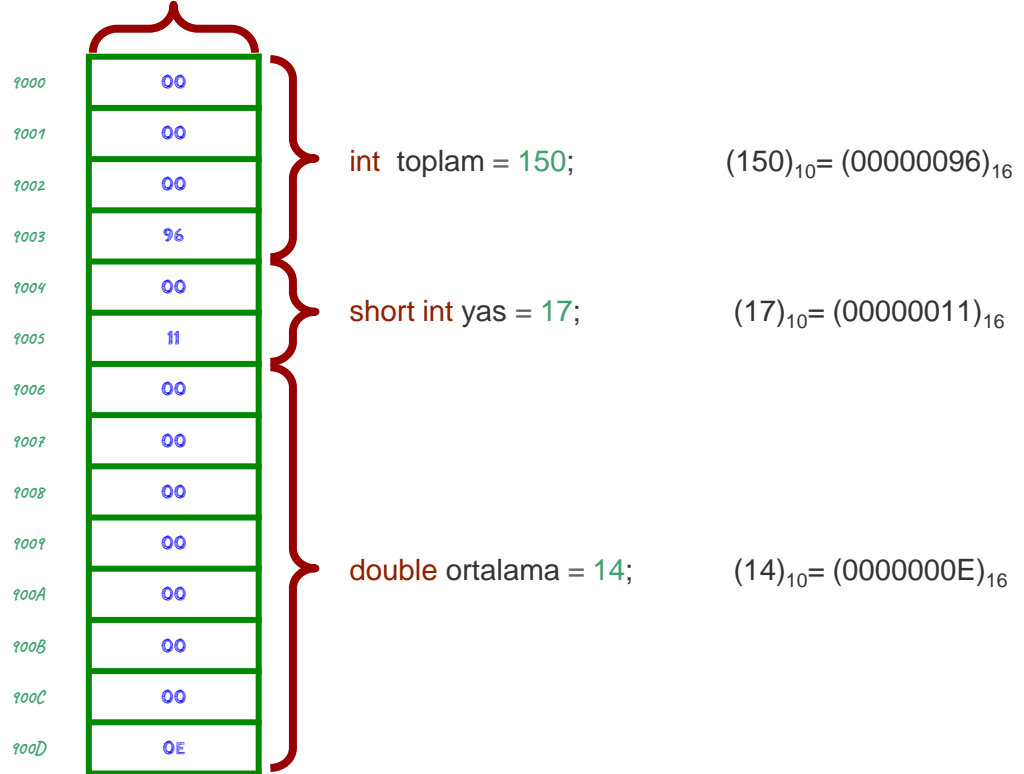
```
    printf("ortalama: %f\n",
```

```
    ortalama);
```

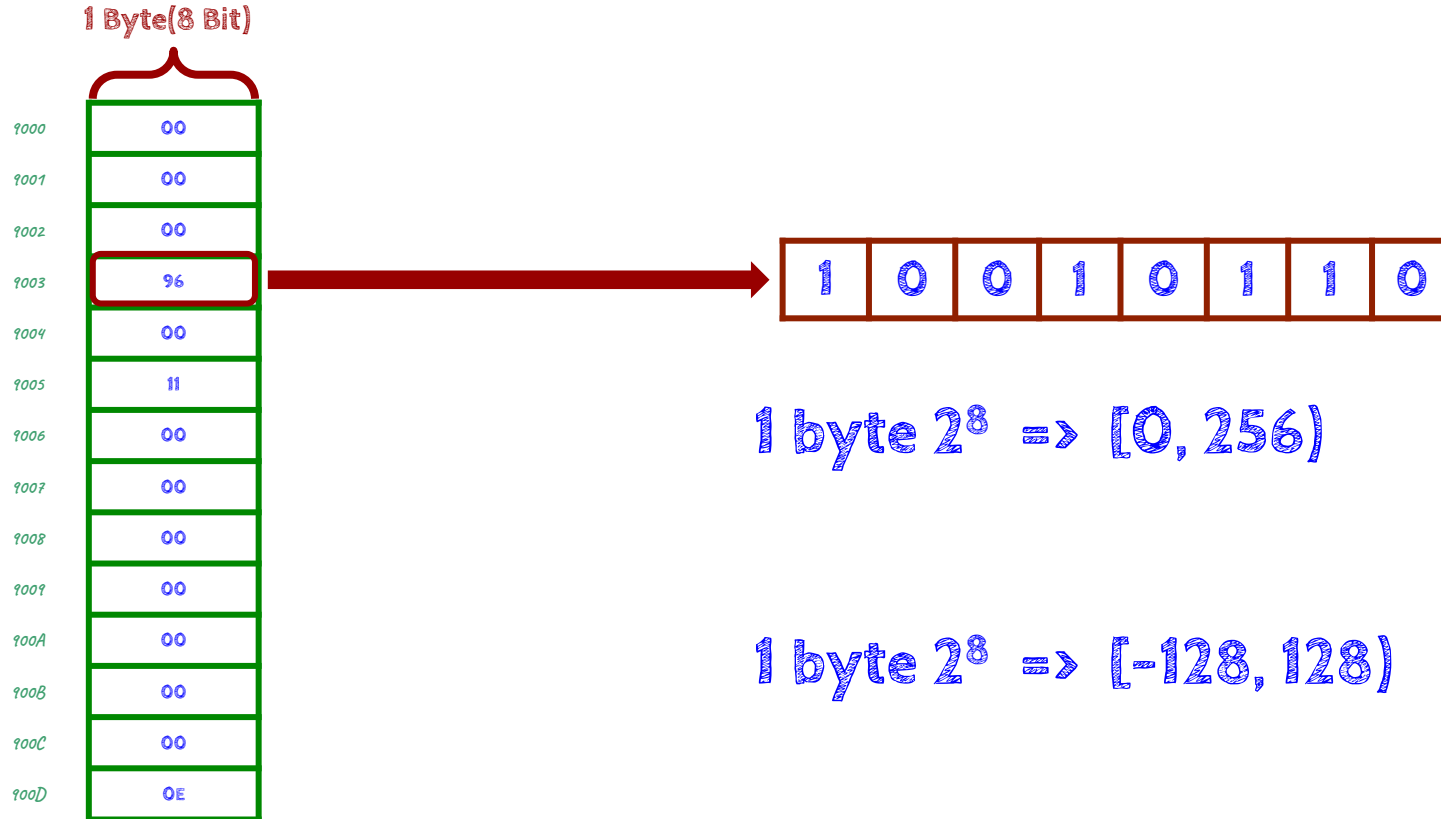
```
    return 0;
```

```
}
```

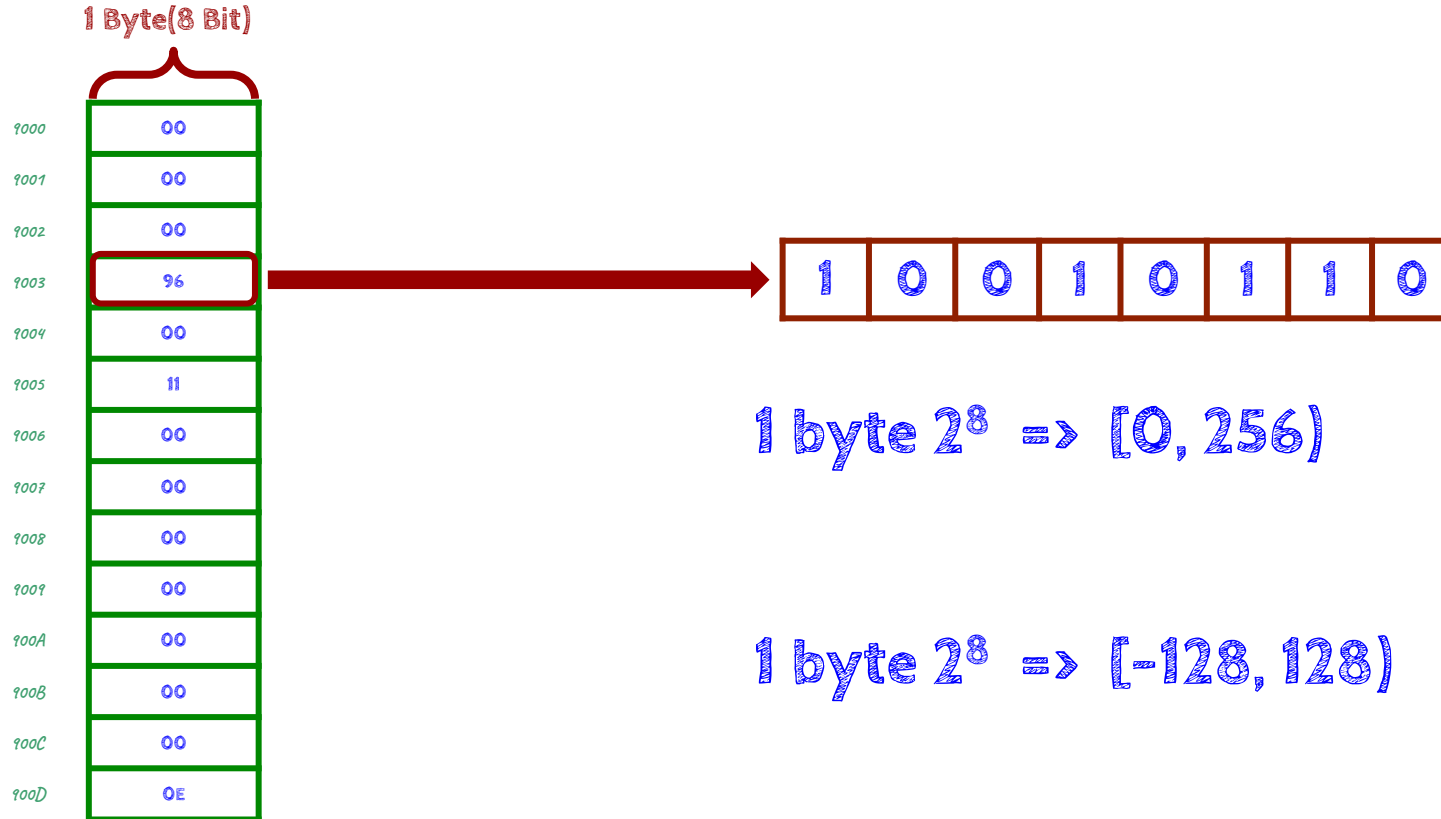
1 Byte(8 Bit)



Hafıza Yerlesimi



Hafıza Yerlesimi



Hafıza Yerlesimi

```
#include<stdio.h>
```

```
int main () {
```

```
    char a = 'T';
```

```
    char b;
```

```
    char c = 'S';
```

```
    char d = 'T';
```

```
    b = 'E';
```

```
    printf("a = %d\n",a);
```

```
    printf("c = %d\n",c);
```

```
    printf("d = %d\n",d);
```

```
    return 0;
```

```
}
```

1000

1001

1002

1003

1004

1005

1006

84
69
83
84

a

b

c

d

Adres Operatörü

```
#include<stdio.h>
```

```
int main () {
```

```
    char a = 'T';
```

```
    char b;
```

```
    char c = 'S';
```

```
    char d = 'T';
```

```
    b = 'E';
```

```
    printf("a = %d\n",a);
```

```
        printf("c = %d\n",c);
```

```
        printf("d = %d\n",d);
```

```
    printf("a'nın adresi = %d\n",&a);
```

```
        printf("b'nin adresi = %d\n",&b);
```

```
        printf("c'nin adresi = %d\n",&c);
```

```
        printf("d'nin adresi = %d\n",&d);
```

```
    return 0;
```

```
}
```

1000		
1001	84	a
1002	69	b
1003	83	c
1004	84	d
1005		
1006		

Adres Operatörü

```
#include<stdio.h>
```

```
int main () {
```

```
    char a = 'T';
```

```
    char b;
```

```
    char c = 'S';
```

```
    char d = 'T';
```

```
    b = 'E';
```

```
    printf("a = %d\n",a);
```

```
        printf("c = %d\n",c);
```

```
        printf("d = %d\n",d);
```

```
    printf("a'nın adresi = %d\n",&a);
```

```
        printf("b'nin adresi = %d\n",&b);
```

```
        printf("c'nin adresi = %d\n",&c);
```

```
        printf("d'nin adresi = %d\n",&d);
```

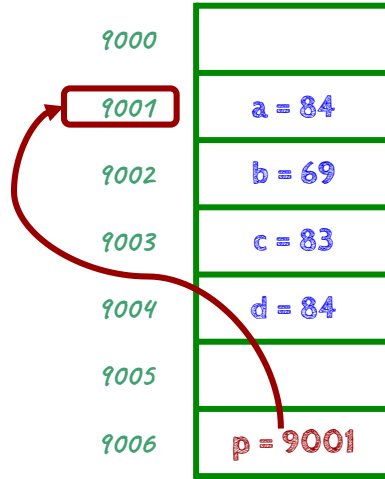
```
    return 0;
```

```
}
```

%d yerine %p

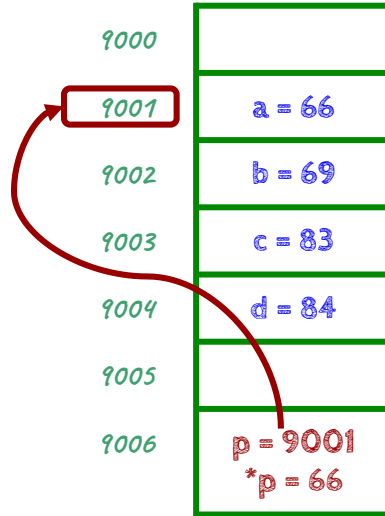


isaretcı(pointer)



~~int p;
p = 9001;~~

Adres Saklama



```
char * p;  
p = &a;  
printf("%d\n", *p);  
*p = 66; // 'B'  
printf("%d\n", a);
```

Pointer Kullanım Alanları

- ❖ fonksiyona parametre olarak gelen degiskenin degerini degistirmek
- ❖ karakter dizileri
- ❖ dinamik (degisken boyutlu) diziler
- ❖ bagli liste, agac vb. veriyapıları
- ❖ bellegin istenilen yerine erisim (sistem programlama)



Örnek-1

```
#include <stdio.h>
```

```
char a = 'T';
```

```
char b = 'E';
```

```
char c = 'S';
```

```
char d = 'T';
```

```
int main() {
```

```
    printf("a nin adresi: %d \n", &a);
```

```
    printf("b nin adresi: %d \n", &b);
```

```
    printf("c nin adresi: %d \n", &c);
```

```
    printf("d nin adresi: %d \n", &d);
```

```
    printf("a nin degeri: %d\n", a);
```

```
    char *p;
```

```
    p = &a;
```

```
    printf("p nin degeri : %d\n", p);
```

```
    printf("*p nin degeri: %d\n\n", *p);
```

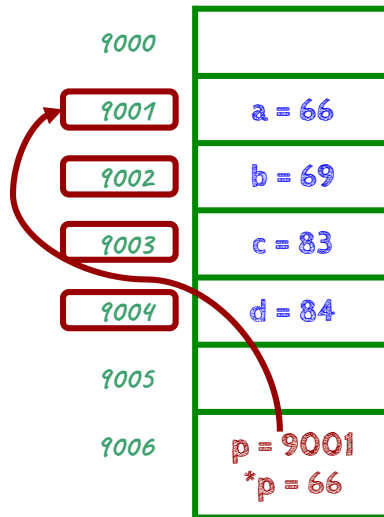
```
    *p = 'B'; // ascii kodu 66
```

```
    printf("a nin degeri: %d\n", a);
```

```
    printf("*p nin degeri: %d\n", *p);
```

```
    return 0;
```

```
}
```



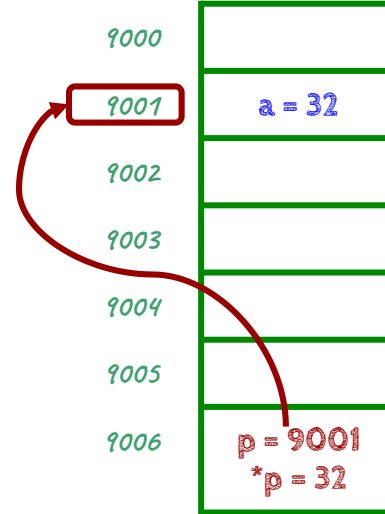
Örnek-2

```
#include <stdio.h>
int main() {
    int a = 5;
    printf("a'nin degeri: %d\n\n", a);
    printf("a'nin adresi: %p\n", &a);
    printf("10'luk tabanda: %u\n\n", &a);

    int * p;
    p = &a;
    printf("p : %p\n", p);
    printf("*p : %d\n\n", *p);

    *p = 32;
    printf("a'nin degeri: %d\n", a);

    return 0;
}
```



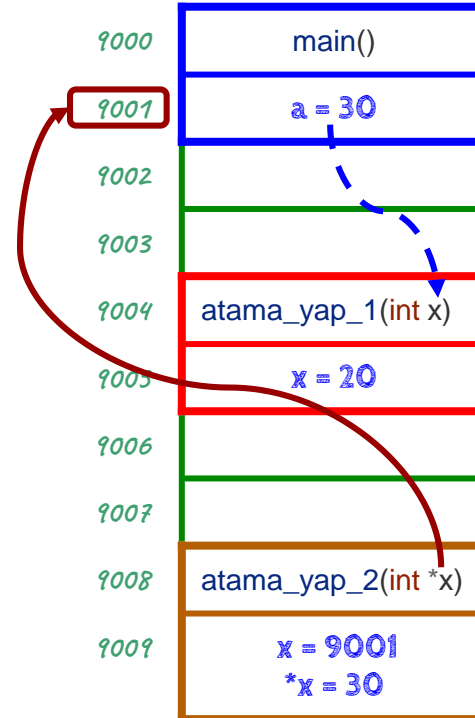
Örnek-3

```
#include <stdio.h>
void atama_yap_1(int x) {
    x = 20;
}
void atama_yap_2(int *x) {
    *x = 30;
}
int main() {
    int a = 5;
    printf("a: %d\n", a);

    atama_yap_1(a);
    printf("a: %d\n", a);

    atama_yap_2(&a);
    printf("a: %d\n", a);

    return 0;
}
```



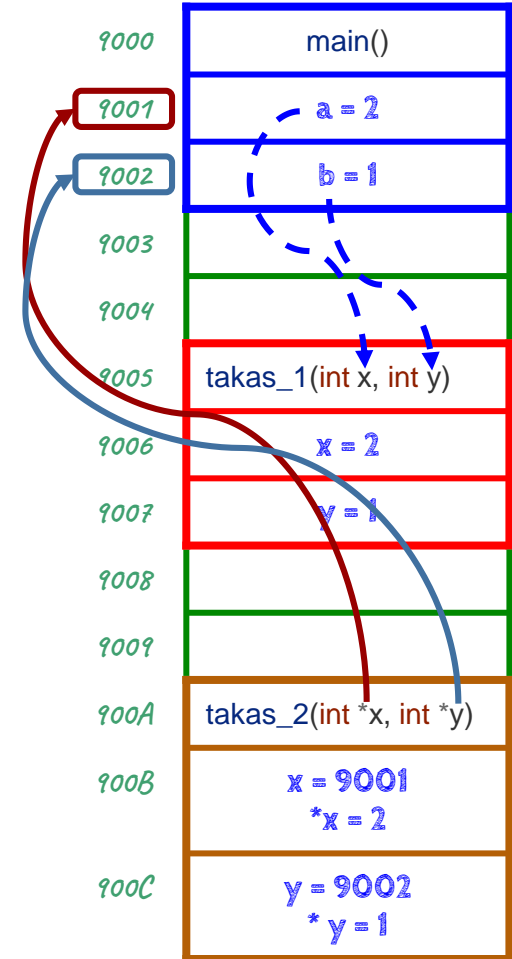
Örnek-4

```
#include <stdio.h>
void takas_1(int x, int y) {
    int tmp = x;
    x = y;
    y = tmp;
}
void takas_2(int *x, int *y) {
    int tmp = *x;
    *x = *y;
    *y = tmp;
}
int main() {
    int a = 1;
    int b = 2;
    printf("a: %d - b: %d\n", a, b);

    takas_1(a, b);
    printf("a: %d - b: %d\n\n", a, b);

    printf("a: %d - b: %d\n", a, b);
    takas_2(&a, &b);
    printf("a: %d - b: %d\n", a, b);

    return 0;
}
```



Örnek-5

```
#include <stdio.h>

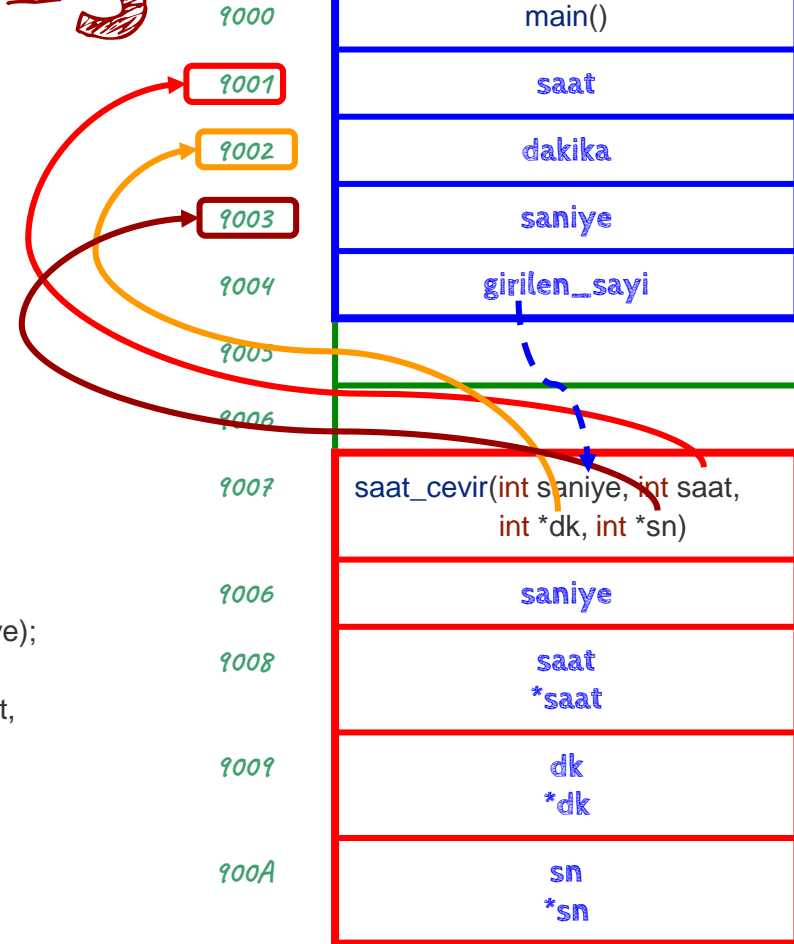
void saat_cevir(int saniye, int *saat, int *dk, int *sn) {
    *sn = saniye % 60;
    *dk = (saniye / 60) % 60;
    *saat = (saniye / 3600);
}

int main() {
    while (1) {
        int saat, dakika, saniye;
        int girilen_sayi;

        printf("sayi girin: ");
        scanf("%d", &girilen_sayi);

        saat_cevir(girilen_sayi, &saat, &dakika, &saniye);

        printf("%d saat %d dakika %d saniye\n\n", saat,
            dakika, saniye);
    }
    return 0;
}
```



Sorular

