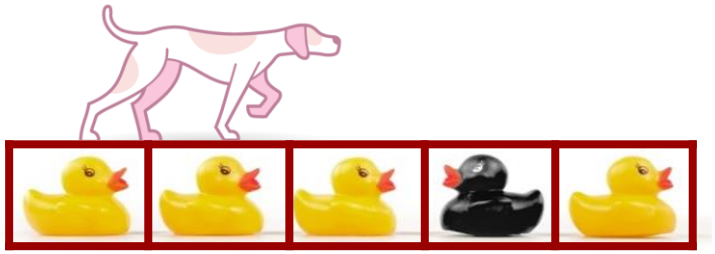
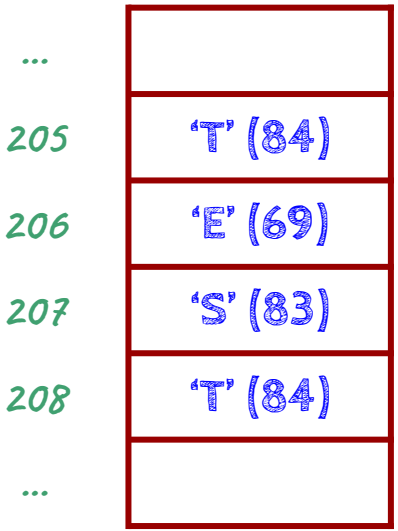
Pointer & Dizi



Gömülü Sistem Lab

Diziler

```
char dizi_a[4] = {'T', 'E', 'S', 'T'}
```



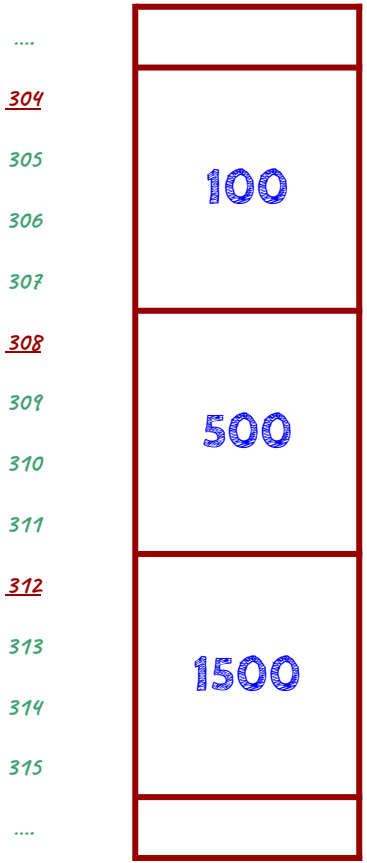

```
printf("%c", dizi_a[2]);
```

'S'

```
printf("%d", &dizi_a[2]);
```

207

Diziler




```
int dizi_b[3] = {100, 500, 1500};
```

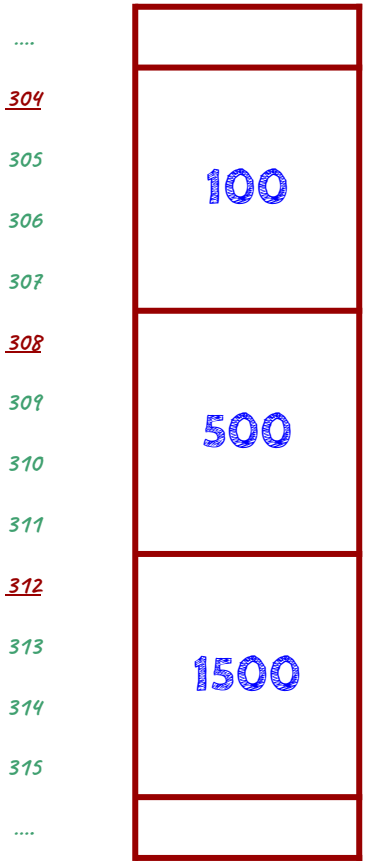
sizeof(int) = 4

3 * **sizeof**(int)

= 3 * 4

= 12 byte

Diziler




```
int dizi_b[3] = {100, 500, 1500};
```

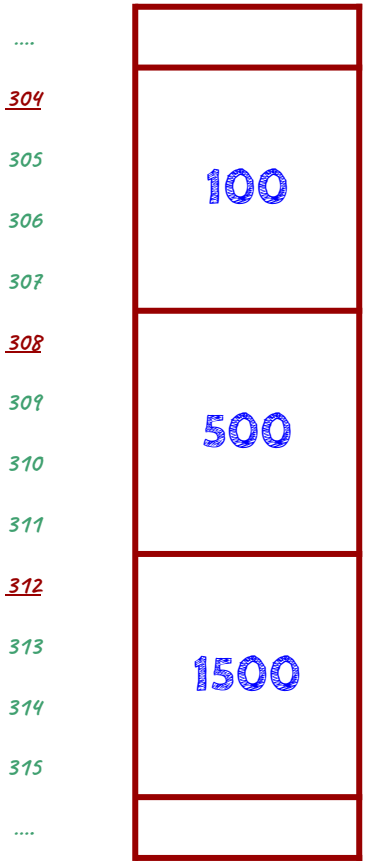
dizi_b[2]

= 304 + 2 * **sizeof**(int)

= 304 + 2 * 4

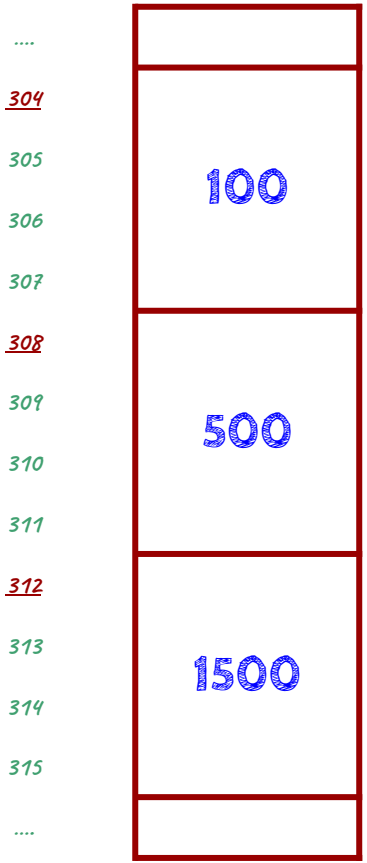
= 312

Diziler



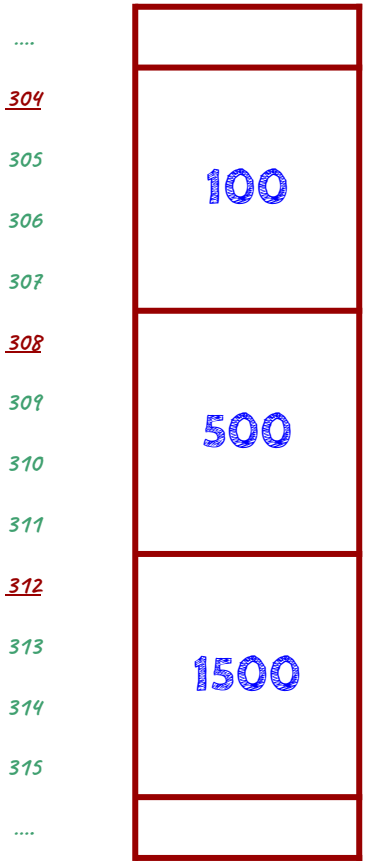

```
int dizi_b[3] = {100, 500, 1500};

printf("%c", dizi_b[2]);
    1500

printf("%d", &dizi_b[2]);
    312
```

Diziler & işaretçiler




```
int dizi_b[3] = {100, 500, 1500};

dizi_b + 1
                    = 304 + 1 * sizeof(int)
                    = 304 + 1 * 4
                    = 308

printf("%d\n", dizi_b+1);
    308
```

Diziler & işaretçiler

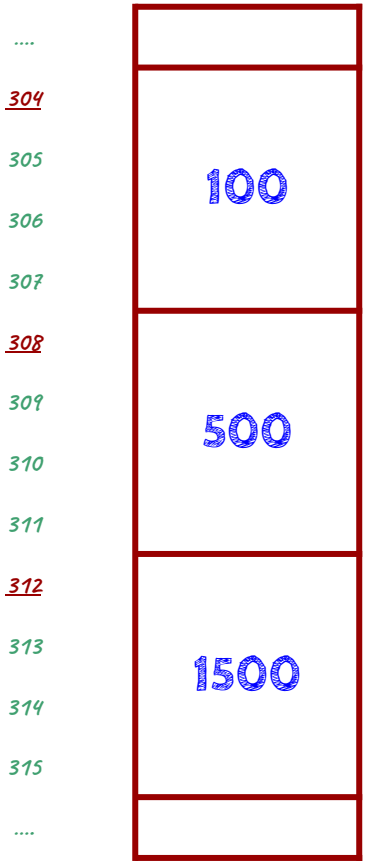



```
int dizi_b[3] = {100, 500, 1500};
```

```
printf("%d\n", *(dizi_b+1));
```

500

Diziler & işaretçiler




```
int dizi_b[3] = {100, 500, 1500};
```

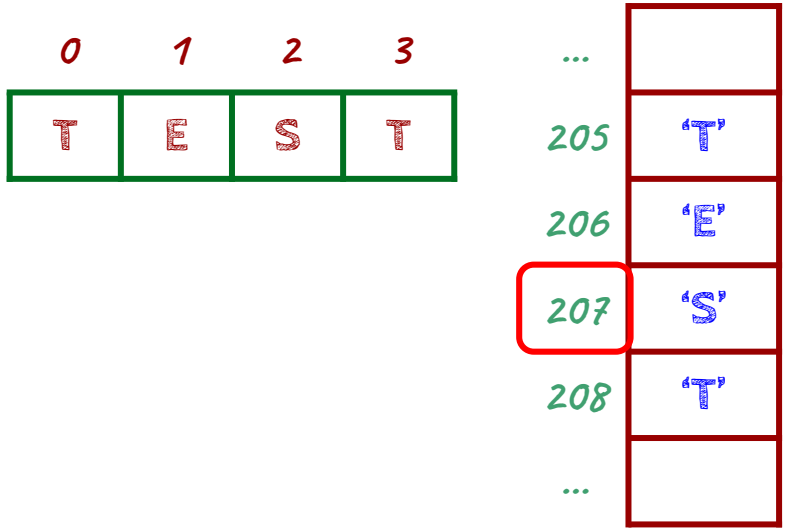
x: tamsayi

```
dizi[x] == *(dizi + x);
```

```
&dizi[x] == (dizi + x);
```

Örnek 1

```c
#include <stdio.h>
int main() {

        printf("char tipinde diziler\n");
        printf("====================\n");

        char dizi_a[4] = {'T', 'E', 'S', 'T'};

        printf("sizeof(char) : %d\n", sizeof(char));
        printf("sizeof(dizi_a) : %d\n\n", sizeof(dizi_a));

        printf("ilk elemanin adresi : %u\n", &dizi_a[0]);
        printf("ikinci elemanin adresi : %u\n\n",
&dizi_a[1]);

        printf("%c\n", dizi_a[2]);
        printf("%u\n\n", &dizi_a[2]);

        return 0;
}
```



Örnek 2

```c
#include <stdio.h>
int main() {
		printf("sizeof(short) : %d\n",
sizeof(short));
		printf("sizeof(int) : %d\n", sizeof(int));
		printf("sizeof(long) : %d\n",
sizeof(long));
		printf("sizeof(char) : %d\n",
sizeof(char));
		return 0;
}
```

Örnek 3

```c
#include <stdio.h>
int main() {
        short a;
        int b;
        long c;
        char d;
        printf("sizeof(a) : %d\n", sizeof(a));
        printf("sizeof(b) : %d\n", sizeof(b));
        printf("sizeof(c) : %d\n", sizeof(c));
        printf("sizeof(d) : %d\n", sizeof(d));
        return 0;
}
```

Örnek 4

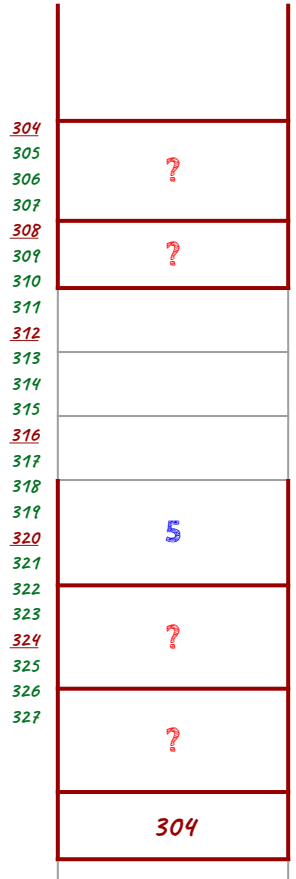
```c
#include <stdio.h>
int main() {
        int dizi[5];
        int *ptr;
        printf("sizeof(dizi) : %d\n",
sizeof(dizi));
        printf("sizeof(ptr) : %d\n", sizeof(ptr));
        return 0;
}
```

Örnek 5

```c
#include <stdio.h>
int main() {
    int a=5;
    int * a_ptr = &a;

    printf("a'nin baslangictaki adres degeri: %u\n\n", a_ptr);

    a_ptr++;
    printf("1 eklendikten sonra adres degeri: %u\n\n", a_ptr);

    a_ptr -= 2;
    printf("2 cikarildiktan sonra adres degeri: %u\n\n", a_ptr);

    a_ptr--;
    printf("1 cikarildiktan sonra adres degeri: %u\n\n", a_ptr);

    printf("a'nin 2 sonraki adresi: %u\n", (&a) +2);
    printf("a'nin 1 onceki adresi: %u\n", (&a) -1);

    return 0;
}
```

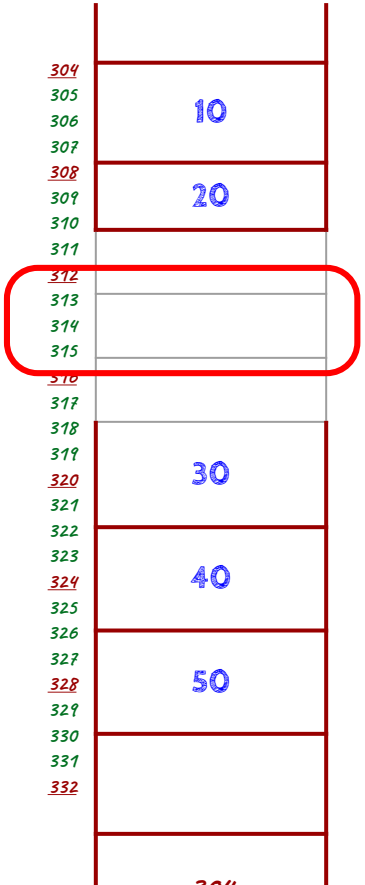
312 +2

312 -1



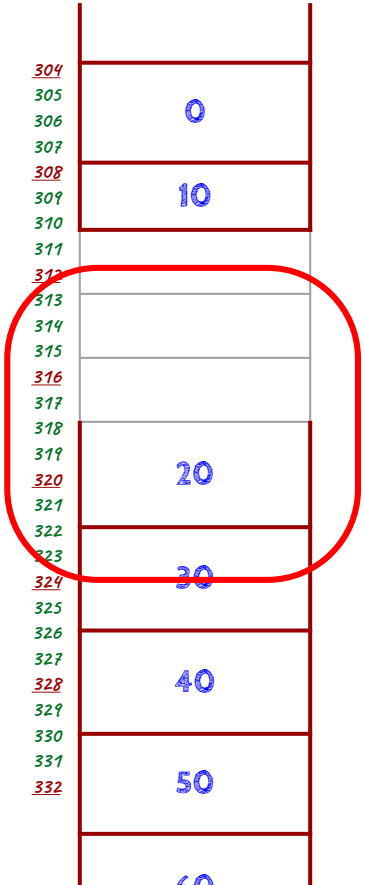
Örnek 6

```c
#include <stdio.h>
int main() {
int i;
int a[5] = {10, 20, 30, 40, 50};
                int *aptr;
                aptr = a;
                // aptr = &a[0]
                // dizinin 2. elemanini yazdiriyoruz
                printf("a[2] : %d\n", a[2]);
                // pointer'in 2 sonraki adresinin degerini yazdiriyoruz
                printf("*(aptr+2) : %d\n", *(aptr+2));
                printf("\n");
                // pointer dizi yazim sekliyle kullanilabilir
                printf("aptr[2] : %d\n", aptr[2]);
                // dizi pointer yazim sekliyle kullanilabilir
                printf("*(a+2) : %d\n", *(a+2));
                printf("\n");
                // dizinin 2. indexteki elemaninin adresi
                printf("&a[2] : %d\n", &a[2]);
                printf("a+2 : %d\n", a+2);
                return 0;
}
```



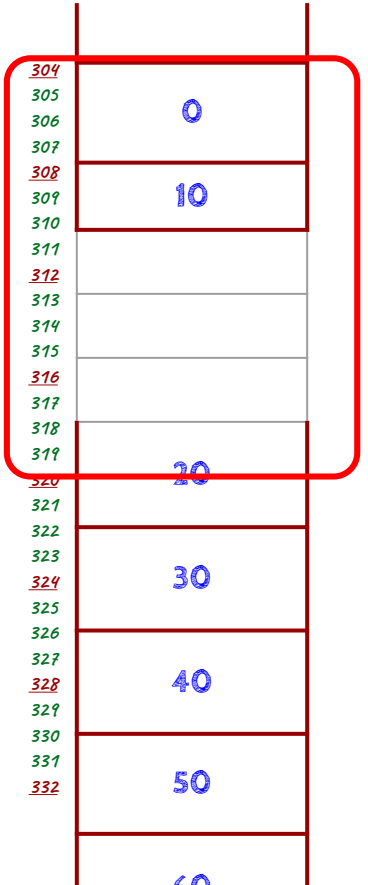
Örnek 7

```c
#include <stdio.h>
void ekrana_yaz(int d[], int N) {
        int i;
        for (i = 0 ; i < N ; i++)
                printf("%d\n", d[i]);
        printf("\n");
}
void ekrana_yaz_2(int *d, int N) {
        int i;
        for (i = 0 ; i < N ; i++)
                printf("%d\n", d[i]);
        printf("\n");
}
int main() {
        int dizi[7] = {0, 10, 20, 30, 40, 50, 60};
        ekrana_yaz(dizi, 2);
        ekrana_yaz_2(dizi, 2);
        ekrana_yaz(&dizi[2], 3);
        ekrana_yaz(dizi+2, 3);
        return 0;
}
```



Örnek 8

```
#include <stdio.h>
void ekrana_yaz_3(int *baslangic, int *son) {
                int * p;
    for (p = baslangic ; p <=  son ; p++)
        printf("%d\n", *p);
    printf("\n");
}

int main() {
                int dizi[7] = {0, 10, 20, 30, 40, 50, 60};
                ekrana_yaz_3(dizi, &dizi[5]);
                ekrana_yaz_3(dizi, &dizi[3]);
                ekrana_yaz_3(dizi, dizi+3);
          return 0;
}
```



Sorular