Fonksiyonlar

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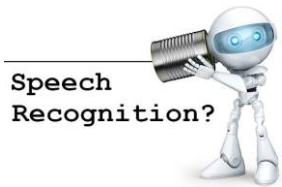
Fonksiyonlar

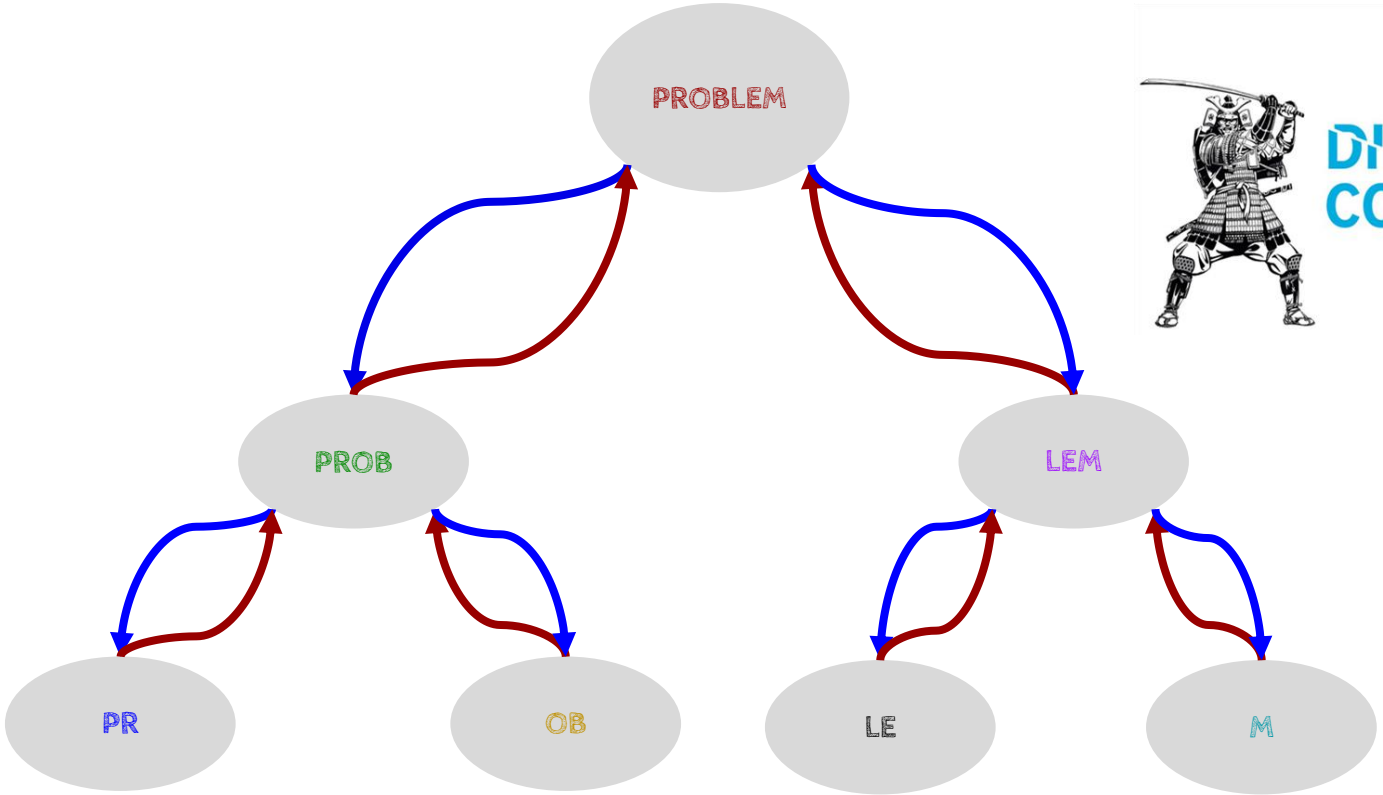
Easy
1x

Hard
∞x

```c
#include<stdio.h>
void main(){
  printf("Merhaba Dünya");
}
```



Fonksiyonlar



DIVIDE AND CONQUER

Hazır Fonksiyonlar

```c
#include <stdio.h>
#include <stdlib.h>
#include <time.h>
#include<math.h>
int main()
{
    pow()
        double pow(double, double)
    return 0;
}
```

Matematiksel Hazır Fonksiyonlar

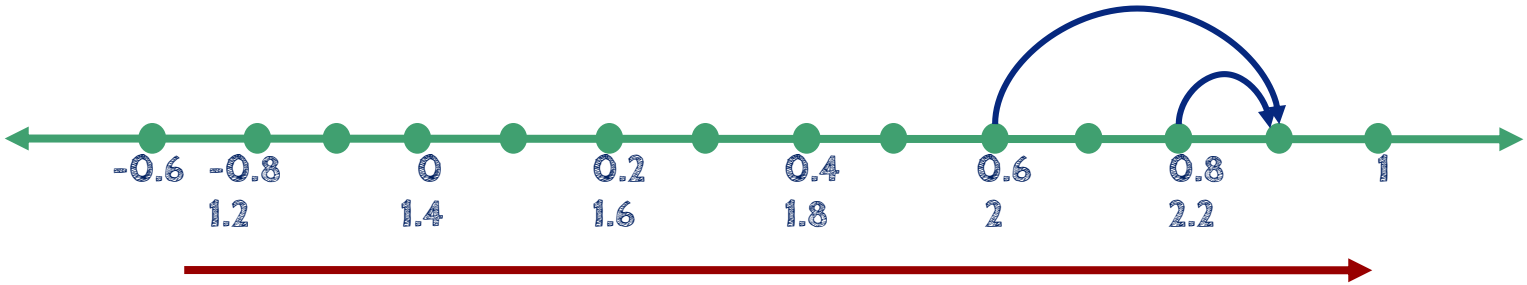
İsim	Tanım
`acos`	arccosinüs
`asin`	arcsinüs
`atan`	arctanjant
`atan2`	iki parametreli arctanjant
`ceil`	x'i kendinden büyük ilk tam sayıya yuvarlar
`cos`	cosinüs
`cosh`	hiperbolik cosinüs
`exp(double x)`	eksponensiyel fonksiyon, e^x hesaplaması
`fabs`	mutlak değer
`floor`	x'i kendinden küçük ilk tam sayıya yuvarlar
`fmod`	x/y işleminin kalanını bulur
`frexp`	fraction and power of 2.
`ldexp`	scale exponent of floating-point value
`log`	natural (e tabaninda) logarithma
`log10`	base-10 10 tabaninda logaritma alir
`pow(x,y)`	x^y, x üzeri y
`sin`	sin
`sinh`	hyperbolic sin
`sqrt`	kare kök
`tan`	tan(x)`i bulur
`tanh`	tanh(x)`i bulur

Kaynakça: https://tr.wikipedia.org/wiki/Math.h

Karekök & Üs

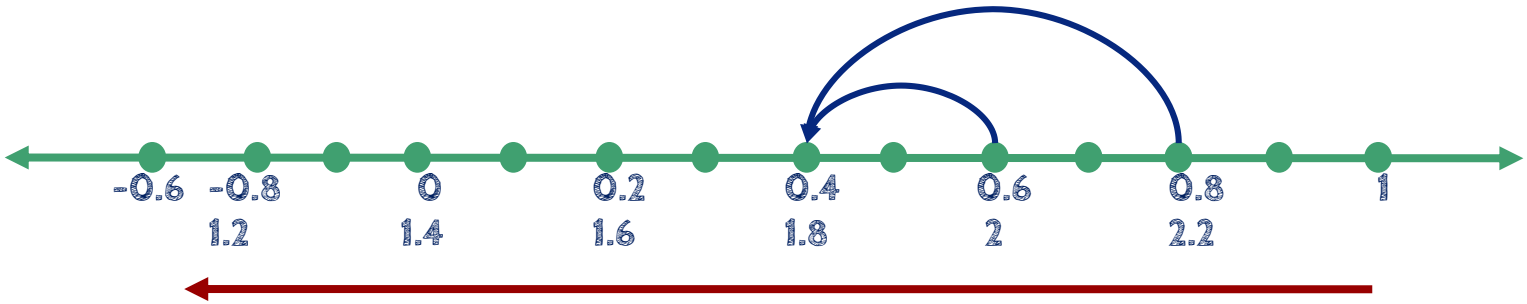
```c
#include <stdio.h>
#include <math.h>
int main() {
		float sayi;
		float sonuc;
		printf("Sayi Giriniz : ");
		scanf("%f",&sayi);
		sonuc= sqrt(sayi);
		printf("sqrt(%f) : %f\n",sayi,sonuc);
		sonuc=pow(sayi,2);
		printf("pow(%f,2) : %f\n",sayi,sonuc);
		sonuc=pow(2,sayi);
		printf("pow(2,%f) : %f\n",sayi,sonuc);
		return 0;
}
```

ceil



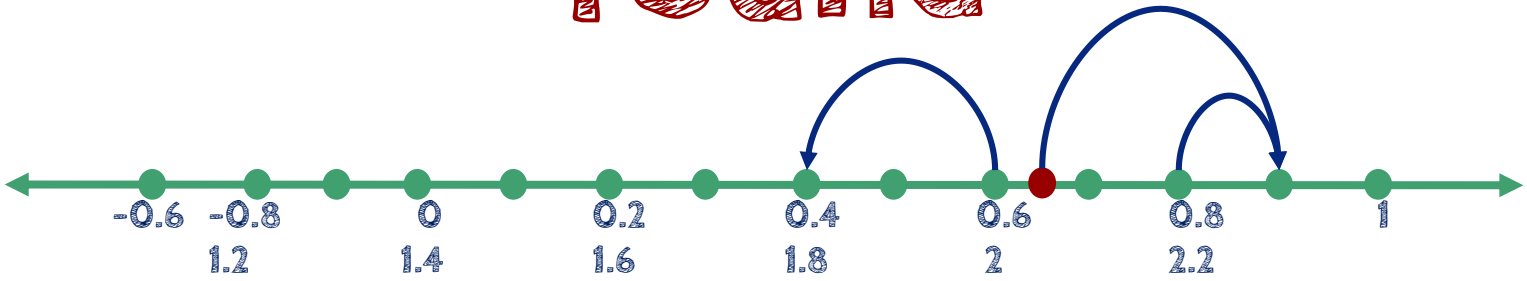

```
printf("ceil(%f) : %f\n",1.4,ceil(1.4));
printf("ceil(%f) : %f\n",1.8,ceil(1.8));
```

floor




```
printf("floor(%f) : %f\n",1.4,floor(1.4));
printf("floor(%f) : %f\n",1.8,floor(1.8));
```

round




```
printf("round(%f) : %f\n",1.4,round(1.4));
printf("round(%f) : %f\n",1.5,round(1.5));
printf("round(%f) : %f\n",1.8,round(1.8));
```

abs

```
printf("fabs(%f) : %f\n",-1.3,fabs(-1.3));
printf("abs(%d) : %f\n",-1,abs(-1));
```

Fonksiyonlar

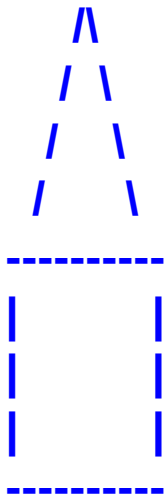
C programlama dilinde fonksiyon tanımlanması için belirli kurallar vardır:

```
Tip FonksiyonAdı (Fonksiyon Giris Parametreleri)
{
  Deyimler...
  return fonksiyon tipinde deger
}
```

- Fonksiyon tipi
- Fonksiyon adı tanımlaması
- Fonksiyon giris parametreleri alanı
- return ifadesi

Fonksiyonlar


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




            return 0;
}
```



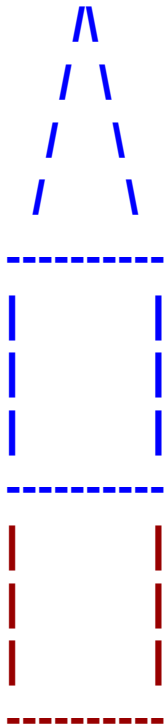
Fonksiyonlar


```
#include<stdio.h>
int main(        )
{
                printf( "     /\\    \n" );
                printf( "    /  \\   \n" );
                printf( "   /    \\  \n" );
                printf( "  /      \\ \n" );
                printf( " /        \\ \n" );
                printf( "----------\n" );
                printf( "|         |\n" );
                printf( "|         |\n" );
                printf( "|         |\n" );
                printf( "----------\n" );

                return 0;
}
```

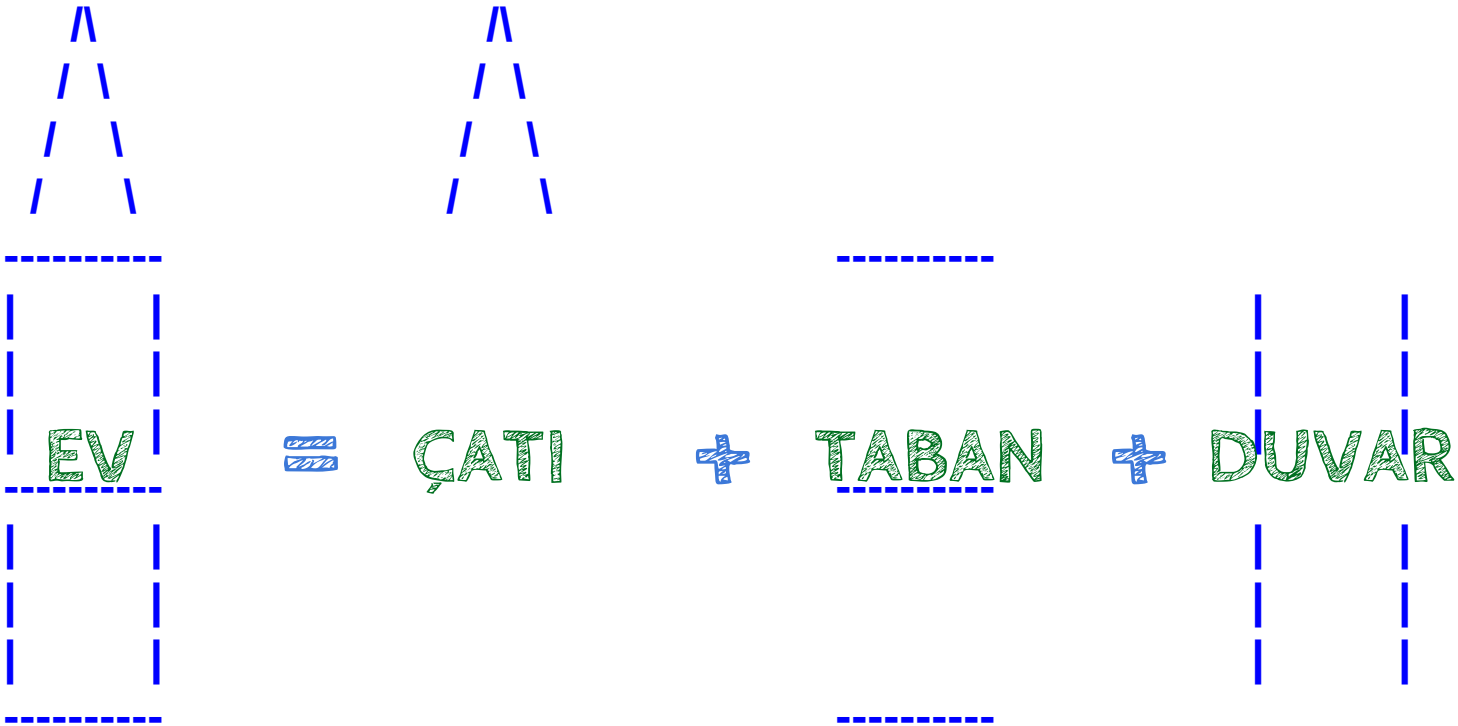
```
     /\
    /  \
   /    \
  /      \
 /        \
----------
|         |
|         |
|         |
----------
```

Fonksiyonlar


```
#include<stdio.h>
int main(        )
{
                printf( "     /\\   \n" );
                printf( "    /  \\  \n" );
                printf( "   /    \\ \n" );
                printf( "  /      \\ \n" );
                printf( " ---------\n" );
                printf( "|         |\n" );
                printf( "|         |\n" );
                printf( "|         |\n" );
                printf( "|         |\n" );
                printf( " ---------\n" );

                return 0;
}
```



Fonksiyonlar



Fonksiyonlar

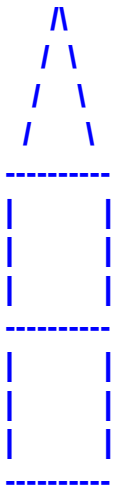

```c
#include<stdio.h>
void catiyi_ciz( )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( )
{
    printf( "----------\n" );
}
```

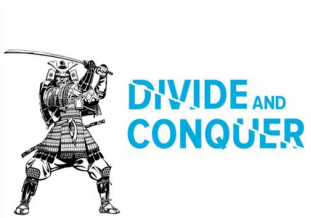
```c
int main( )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

```
    /\
   /  \
  /    \
 /      \
----------
|        |
|        |
|        |
----------
|        |
|        |
|        |
----------
```

Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( )
{
    printf( "----------\n" );
}
int main( )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );


return 0;
}
```

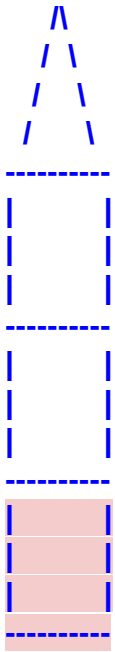





```c
#include<stdio.h>
int main( )
{
                                    printf( "    /\\    \n" );
                                    printf( "   /  \\  \n" );
                                    printf( "  /    \\ \n" );
                                    printf( " /      \\ \n"

);
                                    printf( "----------\n"
);
                                    printf( "|        |\n" );
                                    printf( "|        |\n" );
                                    printf( "|        |\n" );
                                    printf( "----------\n"

);
                                    printf( "|        |\n" );
                                    printf( "|        |\n" );
                                    printf( "|        |\n" );
                                    printf( "----------\n"

);


                                    return 0;

}
```

Fonksiyonlar

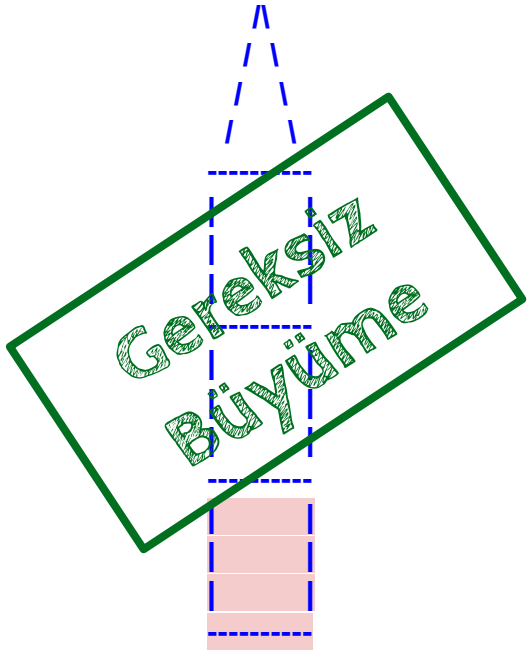
```c
#include<stdio.h>
void catiyi_ciz( )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( )
{
    printf( "----------\n" );
}
int main( )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

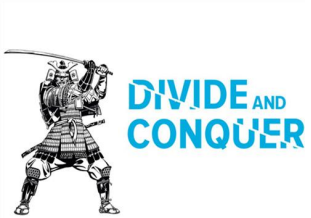



```c
#include<stdio.h>
int main( )
{
                    printf( "    /\\    \n" );
                    printf( "   / \\   \n" );
                    printf( "  /    \\  \n" );
                    printf( " /      \\ \n"
);
                    printf( "----------\n"
);
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "----------\n"
);
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "----------\n"
);
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "|        |\n" );
                    printf( "----------\n"
);

                    return 0;
}
```

Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( )
{
    printf( "----------\n" );
}
int main( )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

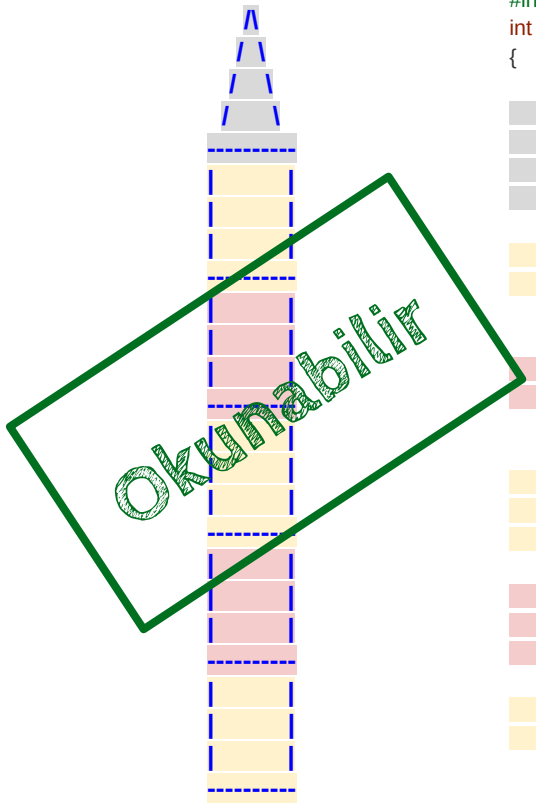





```c
#include<stdio.h>
int main( )
{
                printf( "    /\\    \n" );
                printf( "   / \\   \n" );
                printf( "  /    \\  \n" );
                printf( " /      \\ \n"
);
                printf( "----------\n"
);
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "----------\n"
);
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "----------\n"
);
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "|        |\n" );
                printf( "----------\n"
);

                return 0;
}
```

Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( void )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( void )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( void )
{
    printf( "----------\n" );
}
int main( void )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```



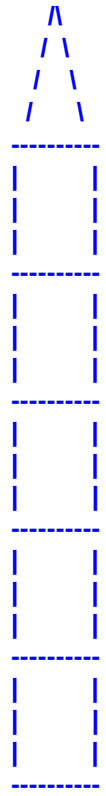

```c
#include<stdio.h>
int main( void )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    return 0;
}
```

Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( void )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( void )
{
    printf( "----------\n" );
}
int main( void )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

taban çizerim

fonksiyon çağırırım



her is yapılır

```c
#include<stdio.h>
int main( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
return 0;
}
```

DIVIDE AND CONQUER

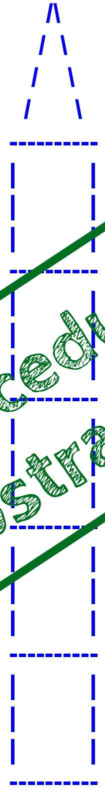
Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( void )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( void )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( void )
{
    printf( "----------\n" );
}
int main( void )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

taban çizerim

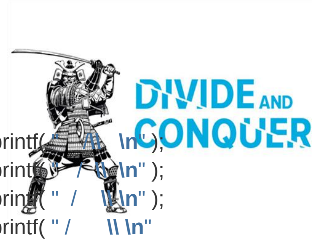
fonksiyon çagırırım

her is yapılır



procedural abstraction

```c
#include<stdio.h>
int main( void )
{
    printf( "    /\\    \n" );
    printf( "   /  \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
);
    printf( "----------\n" );
);
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
);
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
);
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
);
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
);
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
);
```



Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( void )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( void )
{
    printf( "----------\n" );
}
int main( void )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

DÜZELT!!!

Kolay test & hata bulma

DÜZELT!!!

DÜZELT!!!

DÜZELT!!!

DÜZELT!!!

DÜZELT!!!

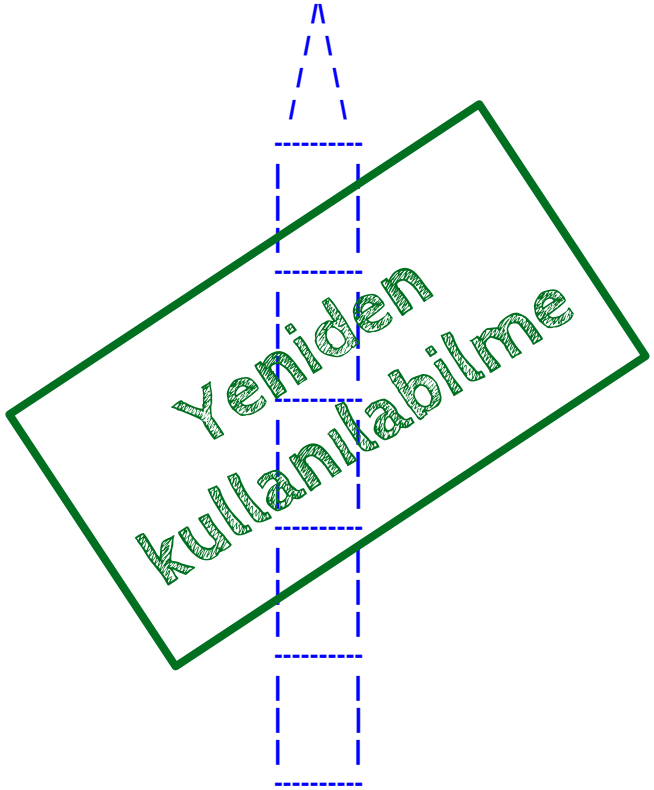
DIVIDE AND CONQUER

```c
#include<stdio.h>
int main( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    pri( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    pri( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    pri( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    pri( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    pri( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
return 0;
}
```

Fonksiyonlar

```c
#include<stdio.h>
void catiyi_ciz( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
}
void duvar_ciz( void )
{
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
}
void taban_ciz( void )
{
    printf( "----------\n" );
}
int main( void )
{
    catiyi_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
    duvar_ciz( );
    taban_ciz( );
return 0;
}
```

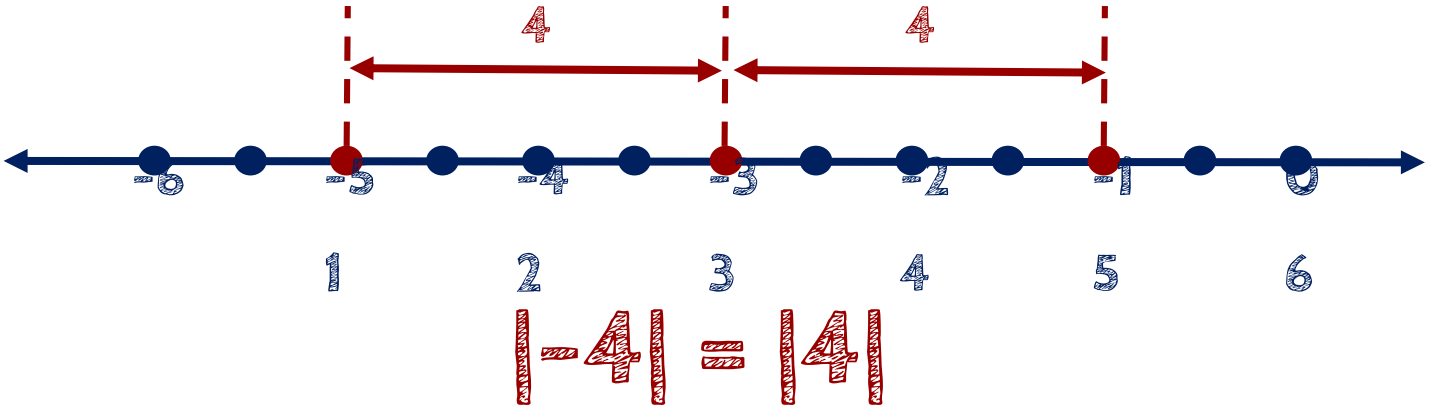
1




```c
#include<stdio.h>
int main( void )
{
    printf( "    /\\    \n" );
    printf( "   / \\   \n" );
    printf( "  /    \\  \n" );
    printf( " /      \\ \n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "|        |\n" );
    printf( "----------\n" );
    return 0;
}
```

1 2 3 4 5

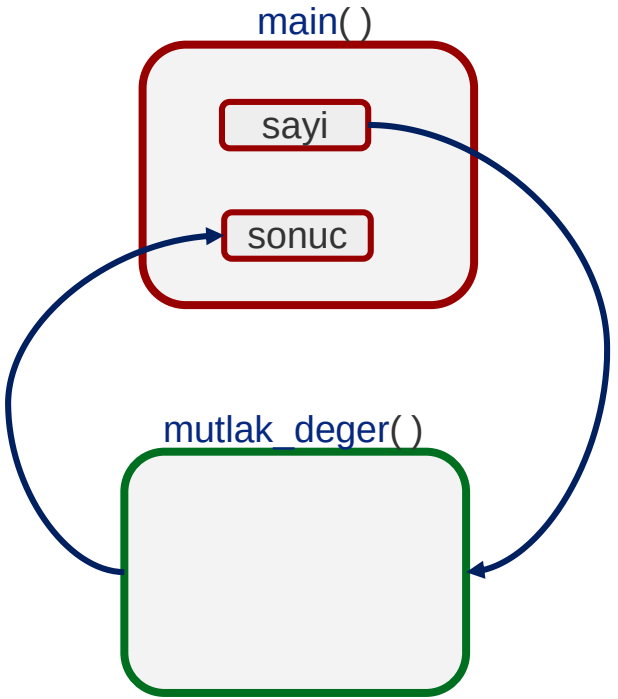
Mutlak Deger



$$|-4| = |4|$$

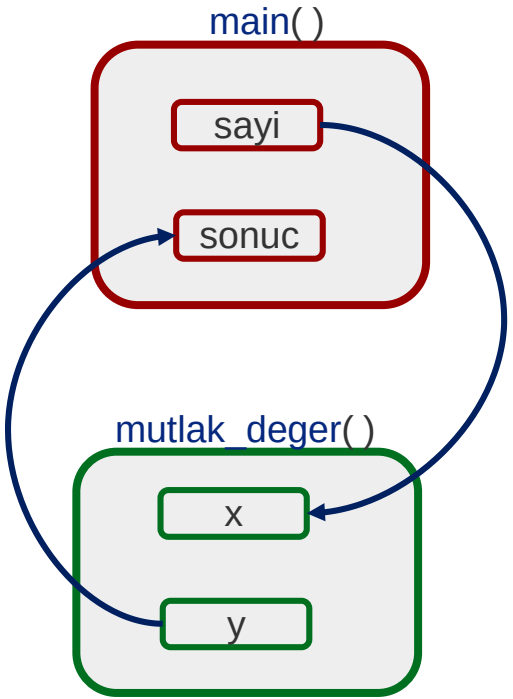
Mutlak Deger

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

int main( ) {
        int sayi, sonuc;
        printf("sayi girin:");
        scanf("%d", &sayi);
        sonuc = mutlak_deger(sayi);
        printf("mutlak deger: %d\n",
sonuc);
        return 0;
}
```



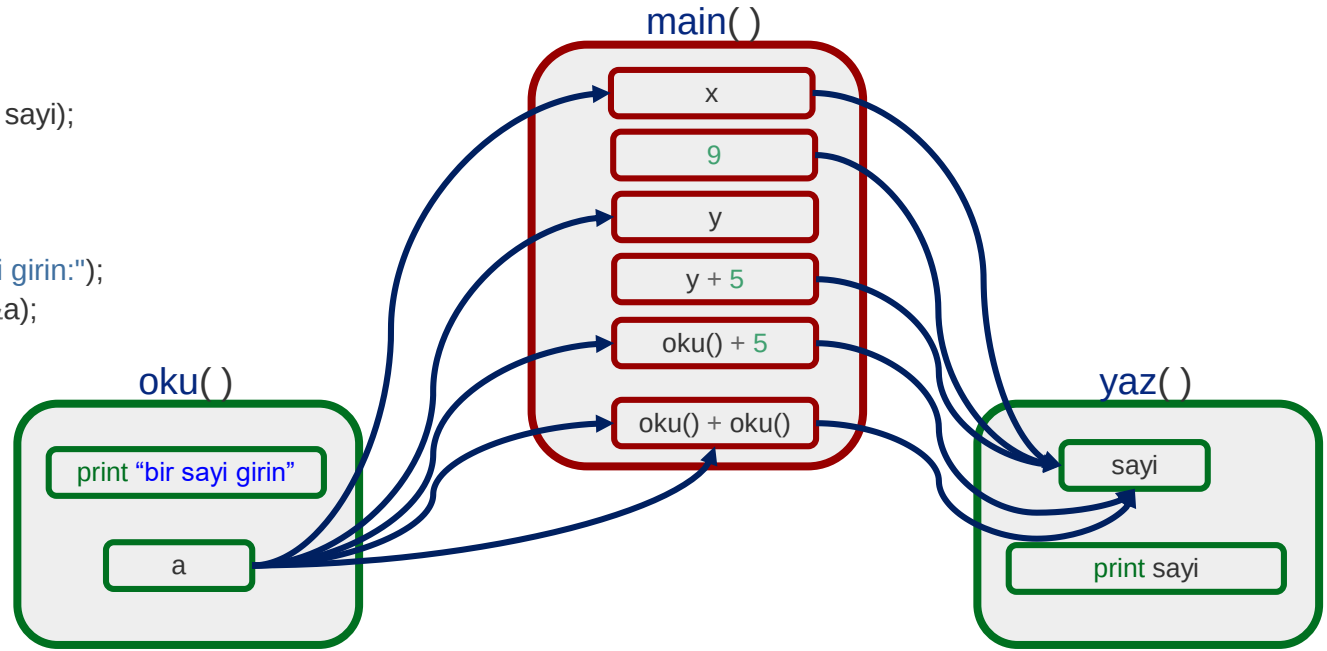
Mutlak Deger

```
int mutlak_deger( int x ) {
        int y;
        if (x >= 0)
        y = x;
        else
        y = -1 * x;
        return y;
}
```



printf & scanf

```c
#include <stdio.h>
#include <stdlib.h>
void yaz(int sayi) {
        printf("%d\n", sayi);
}
int oku() {
        int a;
        printf("bir sayi girin:");
        scanf("%d", &a);
        return a;
}
int main() {
        int x, y;
        x = oku();
        yaz(x);
        yaz(9);
        y = oku();
        yaz(y + 5);
        yaz( oku() + 5);
        yaz( oku() + oku() );
        return 0;
}
```



Ucgen

x

xx

xxx

x

xx

x

xx

xxx

xxxx

DIVIDE AND CONQUER

analiz:

1. s… 1 …

2. sa… … x

3. satir… …ane x

4. satirda … tane x

5. satirda … tane x

6. sati… …ane x

7. s… …ne x

8. … …e x

9. satirda 4 tane x

Ucgen

analiz:

1. satirda	1 tane x
2. satirda	2 tane x
3. satirda	3 tane x
1. satirda	1 tane x
2. satirda	2 tane x
1. satirda	1 tane x
2. satirda	2 tane x
3. satirda	3 tane x
4. satirda	4 tane x

x

xx

xxx

x

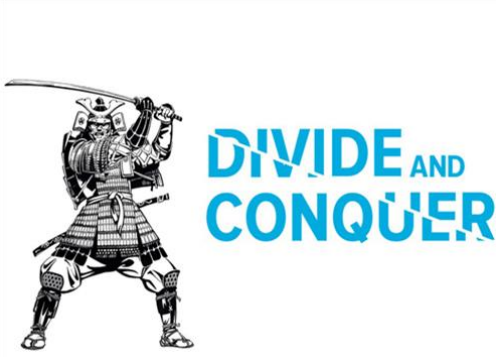
xx

x

xx

xxx

xxxx



Hatırlatma

Hatırlatma

```
#include <stdio.h>
int main() {
        int i, j;
        for (i = 1 ; i <= 5 ; i++) {
                for (j = 1 ; j <= i
; j++) {

        printf("x");
                }
                printf("\n");
        }
        return 0;
}
```

satir =5

sutun = 5

Ucgen

```c
#include <stdio.h>
#include <stdlib.h>
void ucgen_ciz(int x) {
        int i, j;
        for (i = 1 ; i <= x ; i++) {
                for (j = 1 ; j <= i ; j++) {
                        printf("*");
                }
                printf("\n");
        }
}

int main() {
        ucgen_ciz(3);
        ucgen_ciz(2);
        ucgen_ciz(4);
        return 0;
}
```

```
x
xx
xxx
x
xx
x
xx
xxx
xxxx
```

Ucgen

analiz:

1. satirda	1 tane x
2. satirda	2 tane x
3. satirda	3 tane x
4. satirda	4 tane x
1. satirda	3 tane x
2. satirda	2 tane x
3. satirda	1 tane x

x

xx

xxx

xxxx

xxx

xx

x

DIVIDE AND CONQUER

Ucgen

```c
#include <stdio.h>
#include <stdlib.h>
void ucgen_ciz(int x) {
        int i, j;
        for (i = 1 ; i <= x ; i++) {
                for (j = 1 ; j <= i ; j++) {
                        printf("*");
                }
                printf("\n");
        }
}
void ters_ucgen_ciz(int x) {
        int i, j;
        for (i = 1 ; i <= x ; i++) {
                for (j = 1 ; j <= x-i+1 ; j++) {
                        printf("*");
                }
                printf("\n");
        }
}
int main() {
        ucgen_ciz(4);
        ters_ucgen_ciz(3);
        return 0;
}
```

```
x
xx
xxx
xxxx
xxx
xx
x
```

Double Equality

```
#include <stdio.h>
#include <stdlib.h>
int main() {
        double x = 1.2;
        double y = 5.3;
        double z = y - 4.1;
        if ( z == x)
                printf("esit\n");
        else
                printf("esit degil\n");
        return 0;
}
```

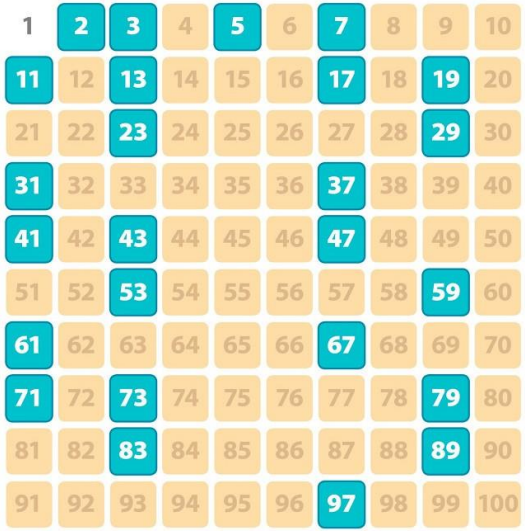
Double Equality

```c
#include <stdio.h>
#include <stdlib.h>
int esit_mi(double A, double B, double hata_payi) {
        if (fabs(A - B) < hata_payi) {
                return 1;
        } else {
                return 0;
        }
}
int main() {
        double x = 1.2;
        double y = 5.3;
        double z = y - 4.1;
        if ( esit_mi(x, z, 0.0001) == 1)
                printf("esit\n");
        else
                printf("esit degil\n");
        return 0;
}
```

HATA PAYI

0.0001

Asal Sayı



23 asal mıdır?

23 >= P X P

23 >= 4 X 4

23 <= 4 X 4

2 <= 23/2

3 <= 23/3

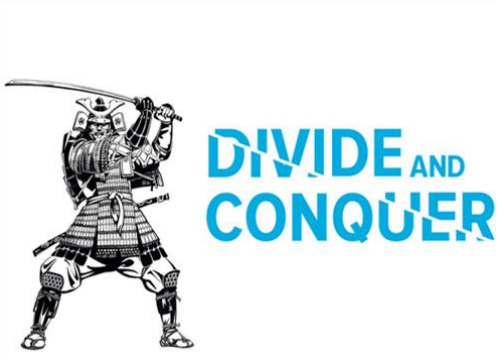
4 <= 23/4

5 <= 23/5

2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 . . .

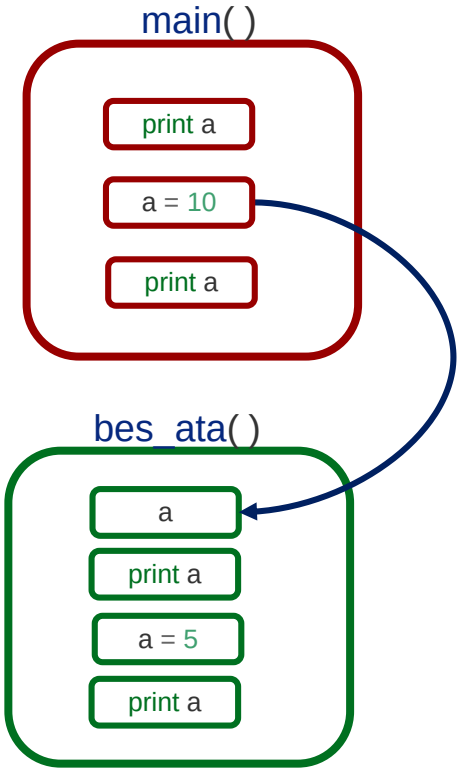
Asal Sayı

```c
#include <stdio.h>
#include <stdlib.h>
int asal_mi(int sayi) {
    int j,i=sayi;
        for(j = 2; j <= (i/j); j++)
            if(!(i%j)) break;
        if(j > (i/j)) return 1;
    return 0;
}
int main() {
    int a, b;
    printf("iki sayi girin: ");
    scanf("%d %d", &a, &b);
    int sayi;
    for (sayi = a ; sayi <= b ; sayi++) {
        int sonuc = asal_mi(sayi);
        if (sonuc == 1)           printf("asal: %d\n", sayi);
    }
    return 0;
}
```



main & fonksiyon

```c
#include <stdio.h>
void bes_ata(int a) {
    printf("alınan -> %d\n", a);
    a = 5;
    printf("degistirildi -> %d\n\n\n", a);
}

int main() {
    int a = 10;
    printf("gonderilmeden once -> %d\n\n\n", a);
    bes_ata(a);
    printf("gonderildikten sonra -> %d\n\n\n", a);
    return 0;
}
```



Sorular