

Funktioner

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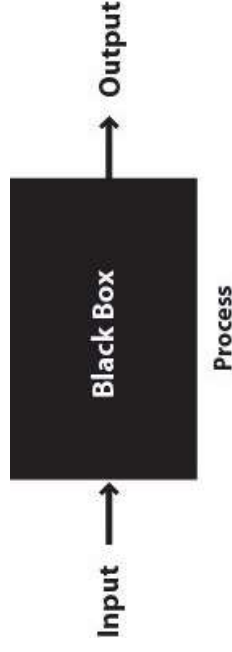
Vad är en funktion?

Svar: Code block som vi gett ett namn

Vad är ett code block? -> { }

BLACKBOX:

Stoppa in saker, få ut saker **BEROENDE PÅ**



ABSTRAKTION

Varför funktioner?

Structure - inte all kod på samma ställe!

Dokumentation

DRY - dont repeat yourself

Decomposition: ät inte hela elefanten på en gång. Fokusera på ett problem i taget
jag löser ett problem, annan utvecklare ett annat

Formal definition

```
return_type function_name( parameter list ) {  
    body of the function  
}  
  
/* function returning the max between two numbers */  
int max(int num1, int num2) {  
  
    /* local variable declaration */  
    int result;  
  
    if (num1 > num2)  
        result = num1;  
    else  
        result = num2;  
  
    return result;  
}
```

Anropa en funktion

```
int main () {  
  
    /* local variable definition */  
    int a = 100;  
    int b = 200;  
    int ret;
```

```
    /* calling a function to get max value */  
    ret = max(a, b);  
  
    printf( "Max value is : %d\n", ret );  
  
    return 0;  
}
```

OBS:
Definiera ovanför...

Eller *deklarera*

DEMO -skillnad

A function declaration tells the compiler about a function's name, return type, and parameters. A function definition provides the actual body of the function. The C standard library provides numerous built-in functions that your program can call.

C parametrar till funktioner

Function declaration : void function();

Function call : function();

Function definition :

```
void function()
{
    statements;
}
```

```
#include <stdio.h>
void value(void);
```

```
void main()
{
    value();
}
```

```
void value()
```

```
{
    float year = 1, period = 5, amount = 5000, intrate;
    float sum;
    sum = amount;
    while (year <= period) {
        sum = sum * (1 + intrate);
        year = year + 1;
    }
    printf(" The total amount is %f:", sum);
}
```

C parametrar till funktioner

Function declaration : void function (int);

Function call : function(x);

Function definition:

```
void function( int x )
{
    statements;
}
```

```
void function(int, int[], char[]);
int main()
{
    int a = 20;
    int ar[5] = { 10, 20, 30, 40, 50 };
    char str[30] = "geeksforgeeks";
    function(a, &ar[0], &str[0]);
    return 0;
}
```

```
void function(int a, int* ar, char* str)
{
    int i;
    printf("value of a is %d\n\n", a);
    for (i = 0; i < 5; i++) {
        printf("value of ar[%d] is %d\n", i, ar[i]);
    }
    printf("\nvalue of str is %s\n", str);
}
```