

فنکشنز اور پروسیجرز

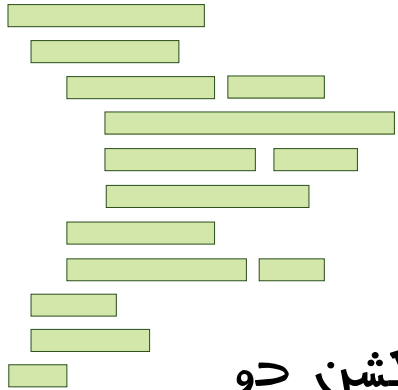
Functions and Procedures



Function and Procedures

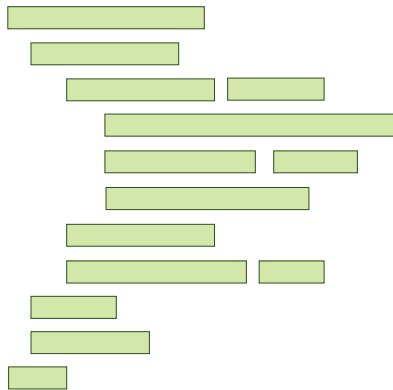
فنکشن ایک

Function One

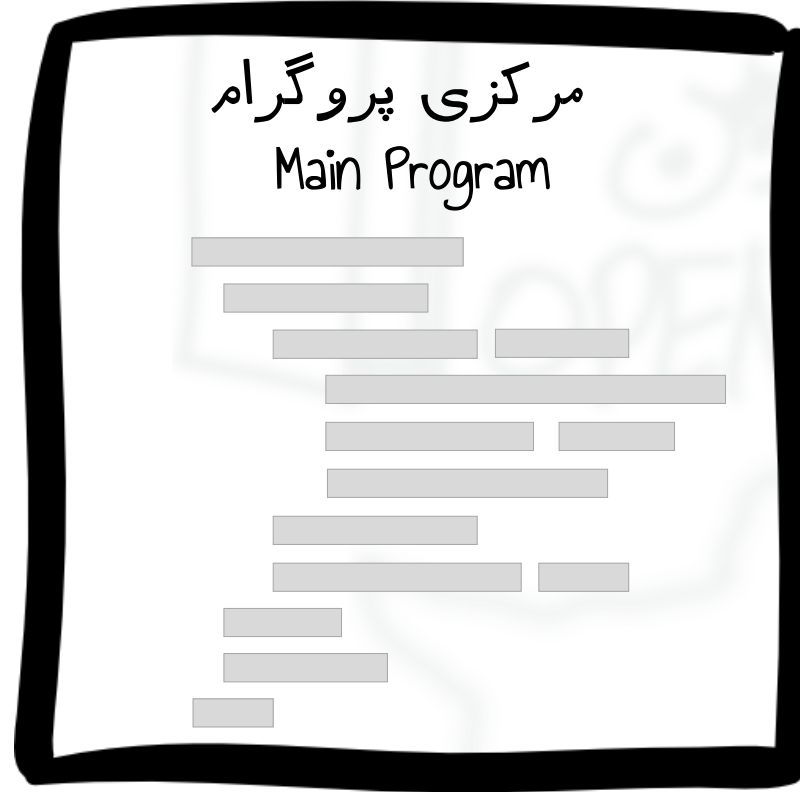


فنکشن دو

Function Two

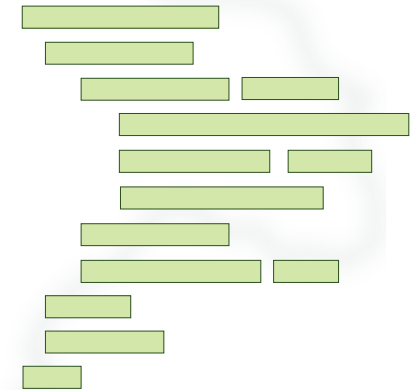


مرکزی پروگرام
Main Program



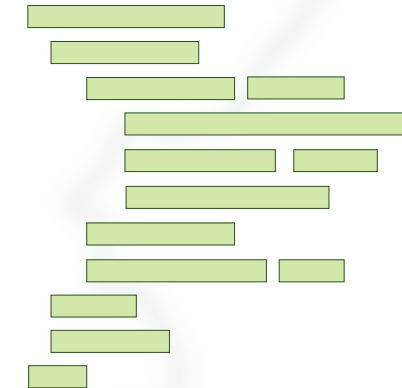
فنکشن تین

Function Three



فنکشن چار

Function Four



Function and Procedures

فنکشنز اور پروسیجرز

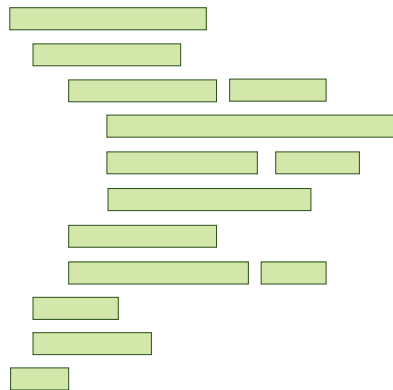
فنکشن ایک

Function One

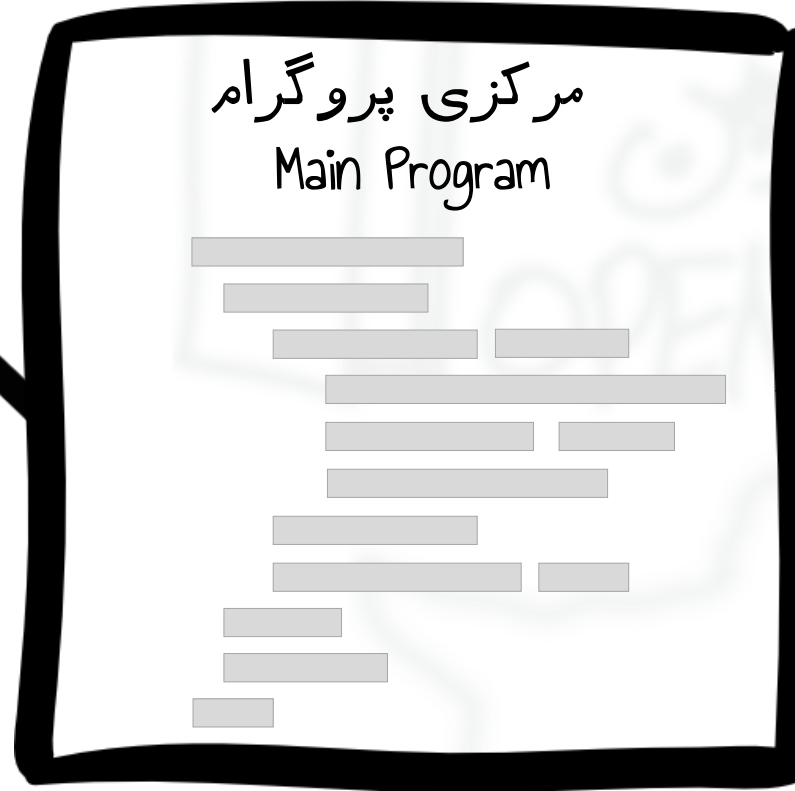


فنکشن دو

Function Two

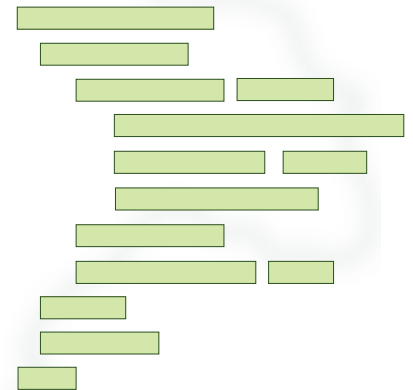


مرکزی پروگرام
Main Program



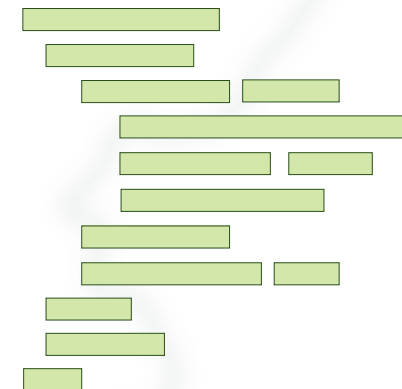
فنکشن تین

Function Three



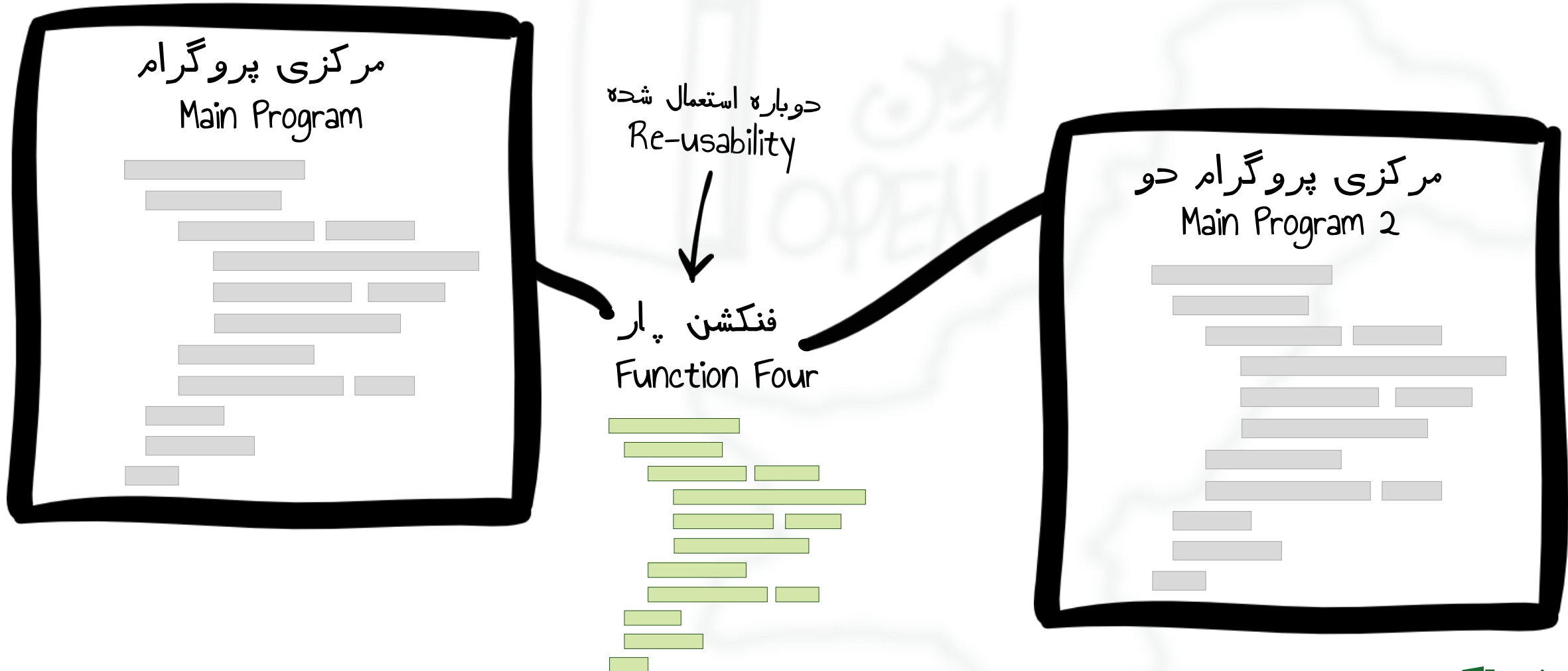
فنکشن چار

Function Four



Function and Procedures

فنکشنز اور پروسیجرز



Example

مثال

Subtract(num1, num2)

```
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ]
  [ ]
  [ ]
```

مرکزی پروگرام
Main Program

CalculateResult

```
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ]
  [ ] [ ]
    [ ]
  [ ]
  [ ]
  [ ]
```

Add(num1, num2)

```
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ] [ ]
    [ ]
  [ ]
  [ ]
  [ ]
```

Example

مثال

`Subtract(num1, num2)`

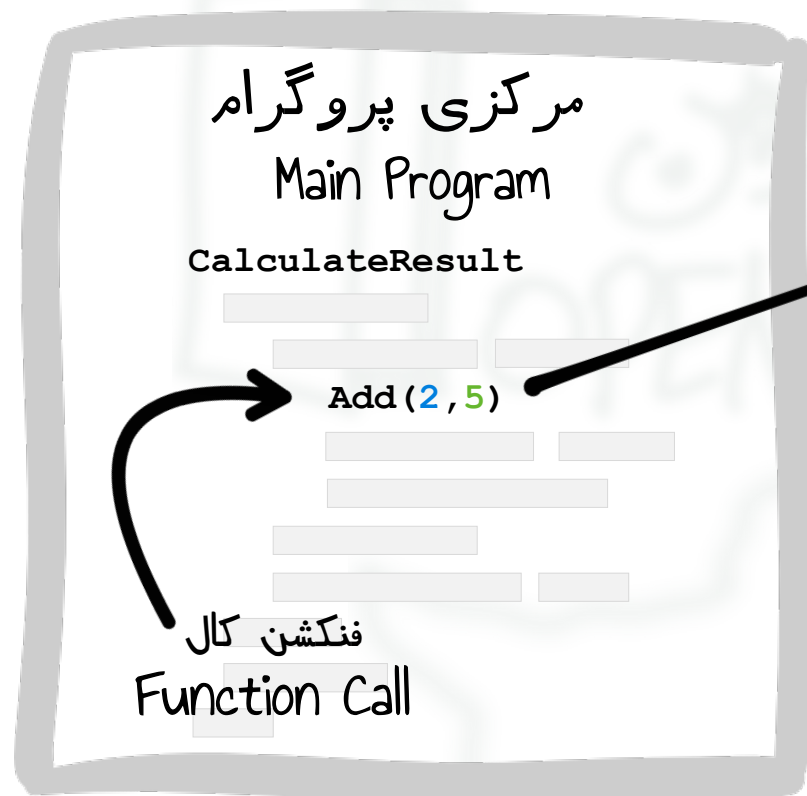


مرکزی پروگرام
Main Program

CalculateResult

`Add(2, 5)`

فکشن کال
Function Call



`Add(num1, num2)`



Example

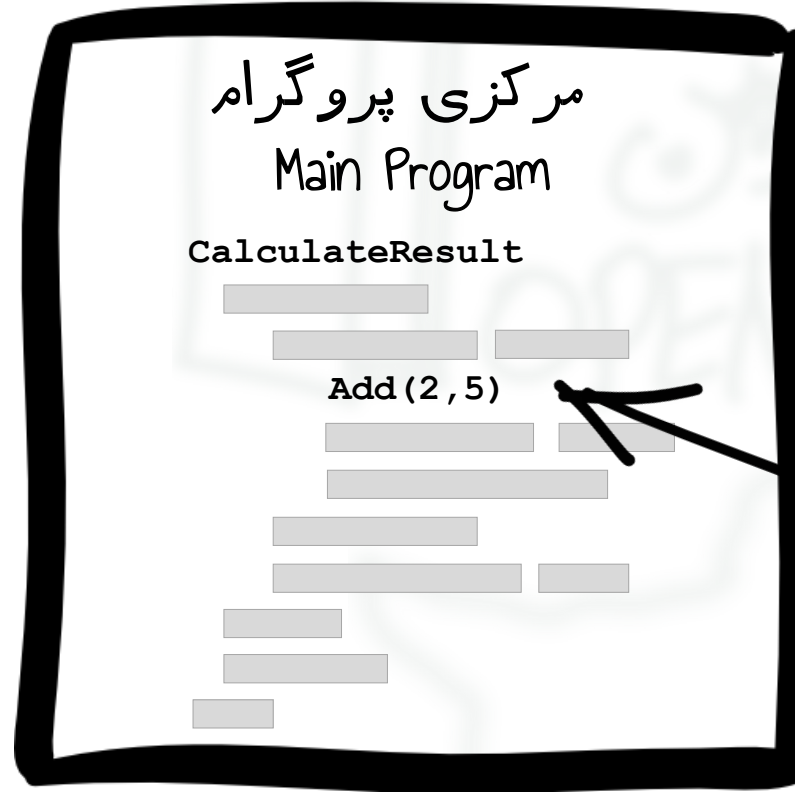
مثال

Subtract(num1, num2)



مرکزی پروگرام
Main Program

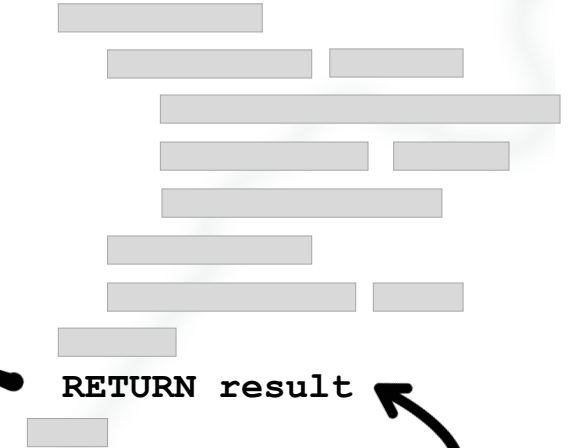
CalculateResult



Add(2, 5)



Add(num1, num2)



RETURN result



واپسی کا بیان
RETURN statement

Example

مثال

```
Subtract (num1, num2)
```

[illegible]

مرکزی پروگرام
Main Program

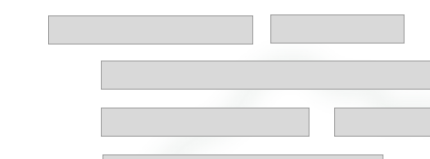
CalculateResult

```

num = Add(2,5)

```


```
Add (num1, num2)
```



RETURN result

[illegible]

```
def Add(x, y):  
    num = Add(2, 5)  
    return num
```



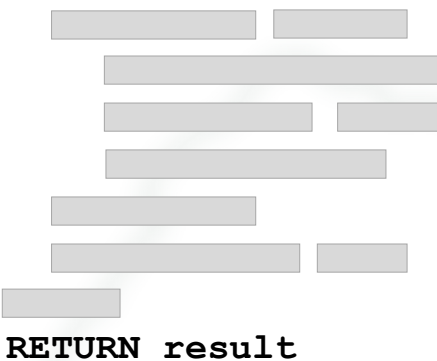
RETURN result

Age Group	Percentage
18-24	~10%
25-34	~35%
35-44	~25%
45-54	~15%
55-64	~10%
65-74	~5%
75-84	~2%
85-94	~1%
95-104	~0.5%

```

num = Add(2,5)

```



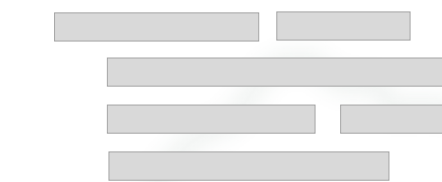
RETURN result

Age Group	Percentage
18-24	~15%
25-34	~35%
35-44	~85%
45-54	~65%
55-64	~55%
65-74	~45%
75-84	~35%
85-94	~25%
95-104	~5%

```

num = Add(2,5)

```



RETURN result

Example

مثال

```
Subtract (num1, num2)
```

Age Group	Percentage
18-24	~15%
25-34	~35%
35-44	~55%
45-54	~45%
55-64	~35%
65-74	~25%
75-84	~15%
85-94	~10%
95-104	~5%

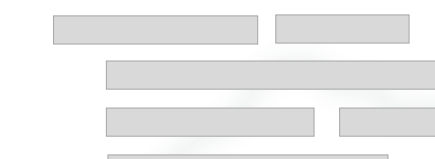
مرکزی پروگرام
Main Program

CalculateResult

```
num = Add(2, 5)
```



```
Add (num1, num2)
```



RETURN result

Example

مثال

```
Subtract (num1, num2)
```

Age Group	Percentage
18-24	10%
25-34	25%
35-44	20%
45-54	55%
55-64	15%
65+	10%

مرکزی پروگرام
Main Program

CalculateResult



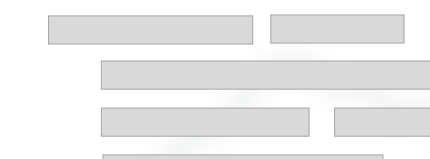
```
num = Add(2, 5)
```

```

num = Add(2, 5)

```

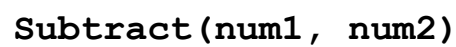
```
Add (num1, num2)
```



RETURN result

Example

مثال



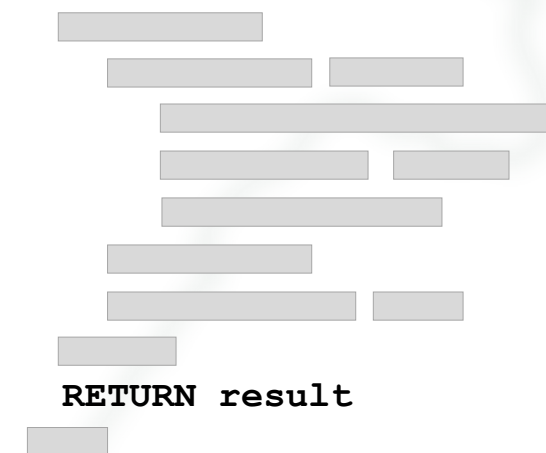
Main Program

CalculateResult

```
num = Add(2, 5)
```

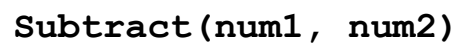


```
Add (num1, num2)
```



Example

مثال

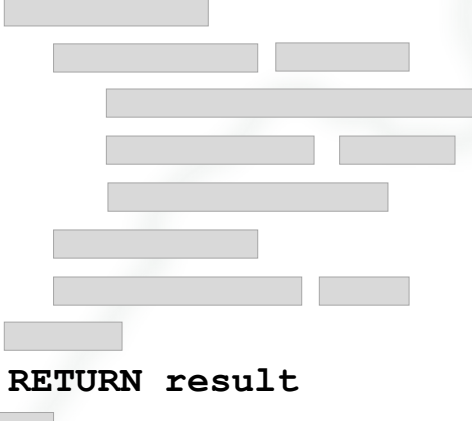


مرکزی پروگرام
Main Program

CalculateResult

```
num = Add(2, 5)
```

```
Add (num1, num2)
```



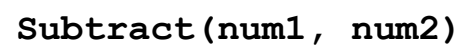
```

RETURN result

```

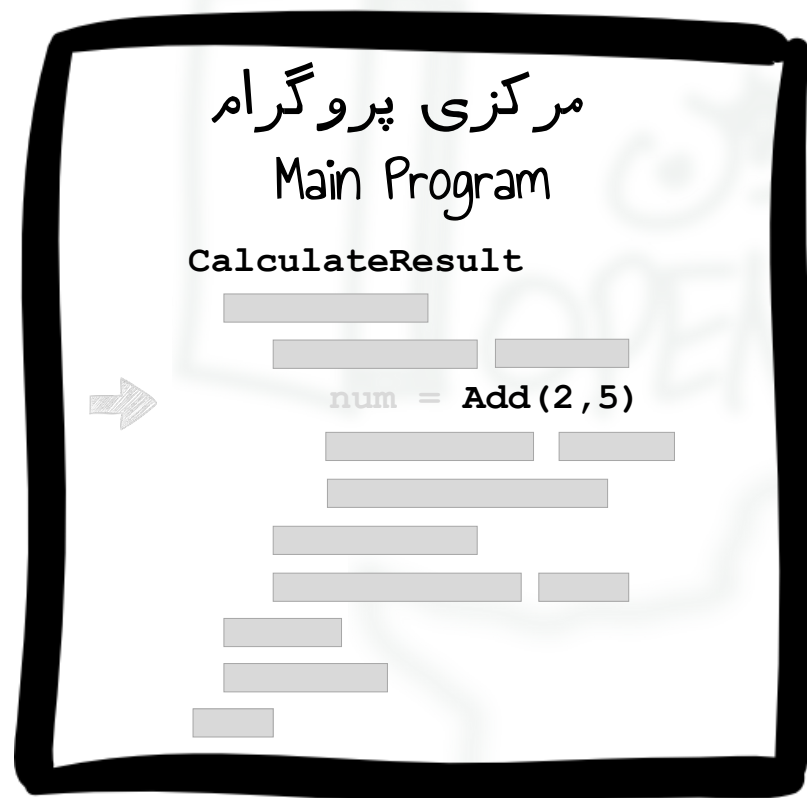
Example

مثال

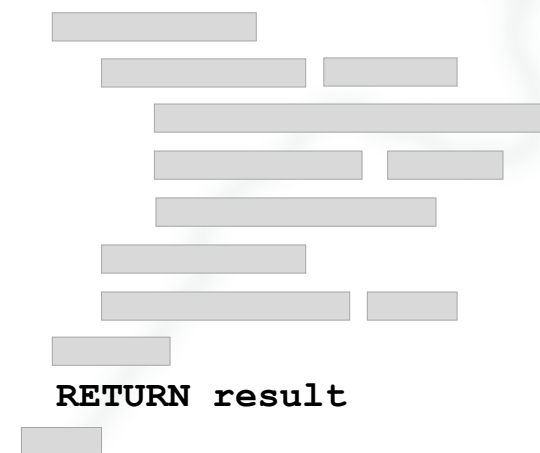


CalculateResult

```
num = Add(2, 5)
```



```
Add (num1, num2)
```



Example

مثال

Subtract(num1, num2)

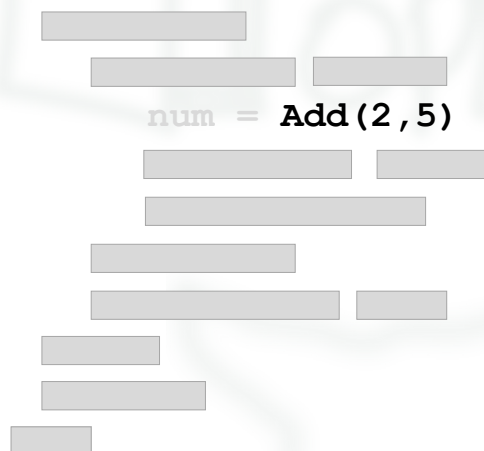


مرکزی پروگرام
Main Program

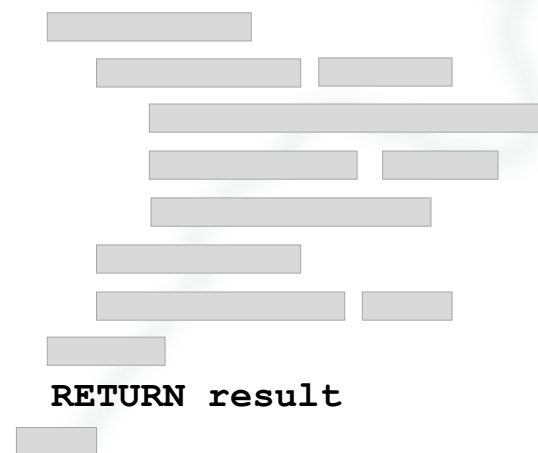
CalculateResult



`num = Add(2, 5)`



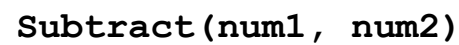
Add(num1, num2)



RETURN result

Example

مثال

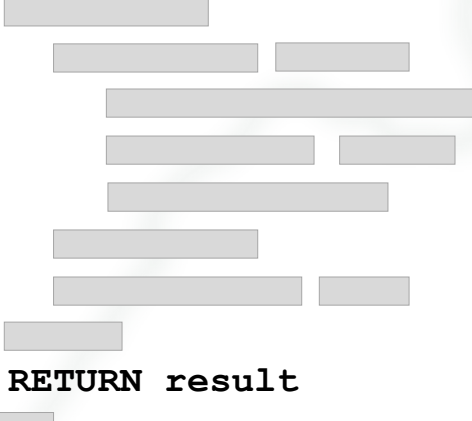


مرکزی پروگرام
Main Program

CalculateResult

```
num = Add(2, 5)
```

```
Add (num1, num2)
```



```

RETURN result

```

Example

مثال

Subtract(num1, num2)

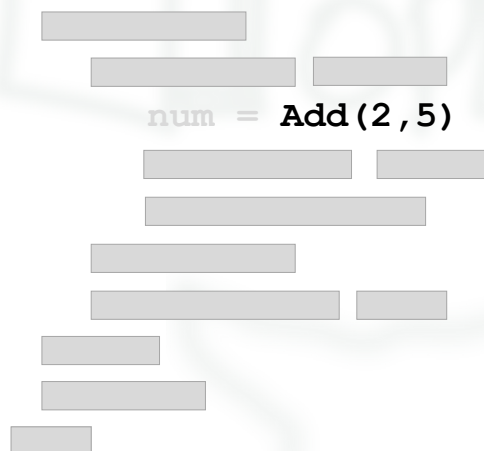


مرکزی پروگرام
Main Program

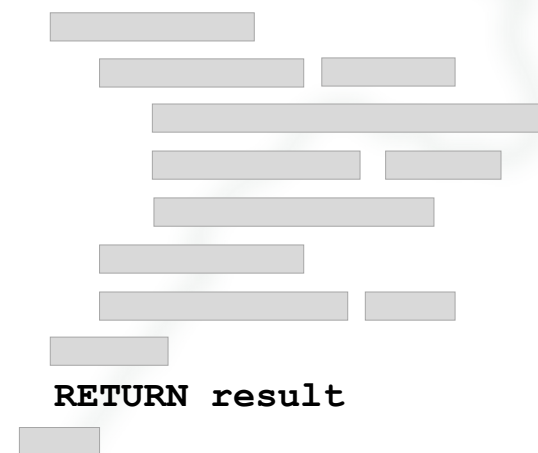
CalculateResult



`num = Add(2, 5)`



Add(num1, num2)



RETURN result

Example

مثال

Subtract(num1, num2)

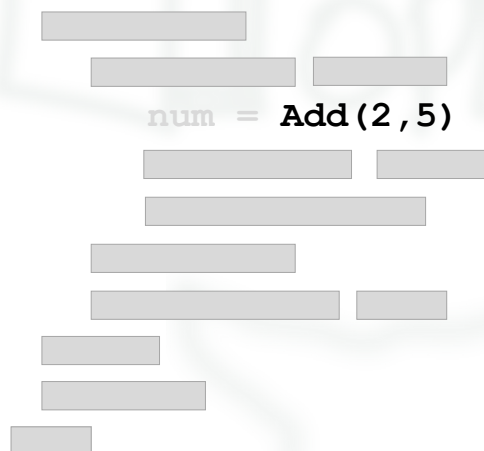


مرکزی پروگرام
Main Program

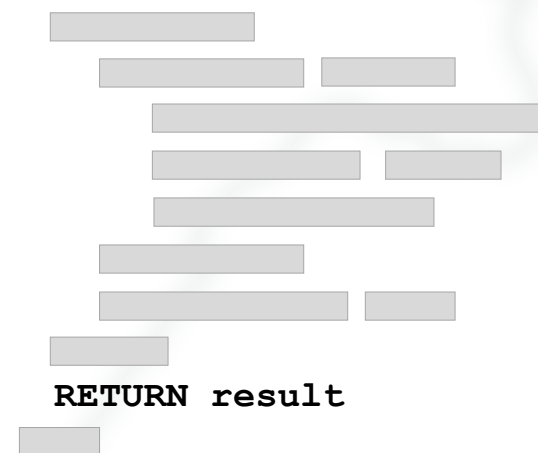
CalculateResult



`num = Add(2, 5)`



Add(num1, num2)



Example

مثال

Subtract(num1, num2)

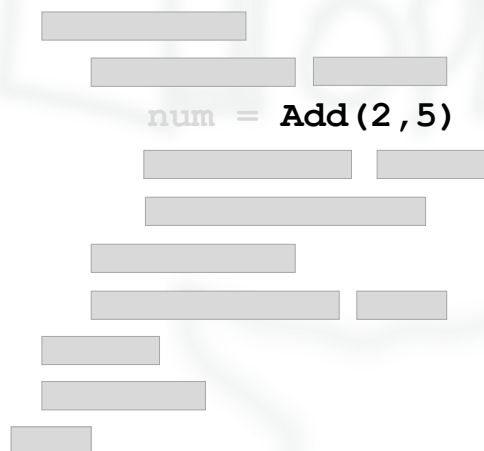


مرکزی پروگرام
Main Program

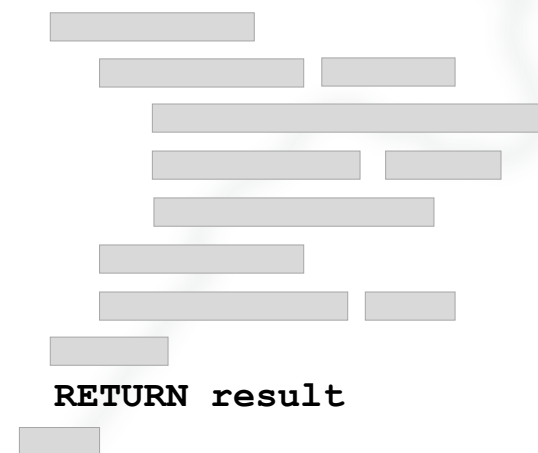
CalculateResult



`num = Add(2, 5)`



Add(num1, num2)



Example

مثال

Subtract(num1, num2)

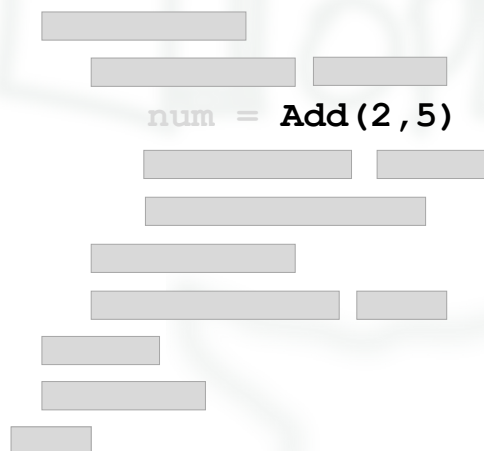


مرکزی پروگرام
Main Program

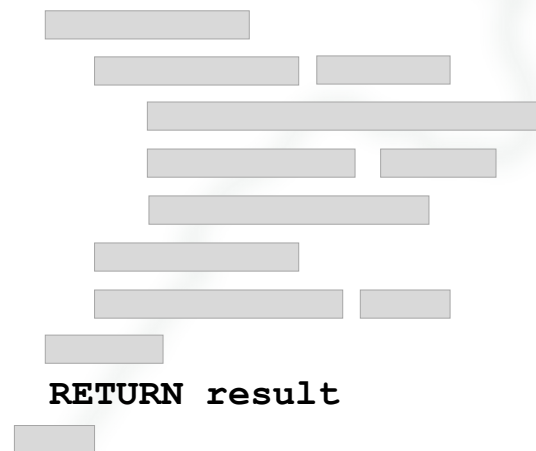
CalculateResult



num = Add(2, 5)



Add(num1, num2)



Example

مثال

Subtract(num1, num2)

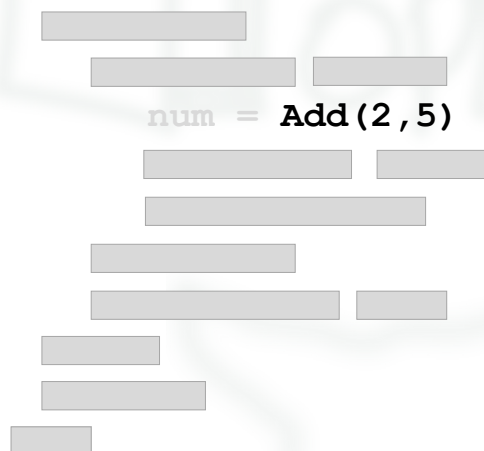


مرکزی پروگرام
Main Program

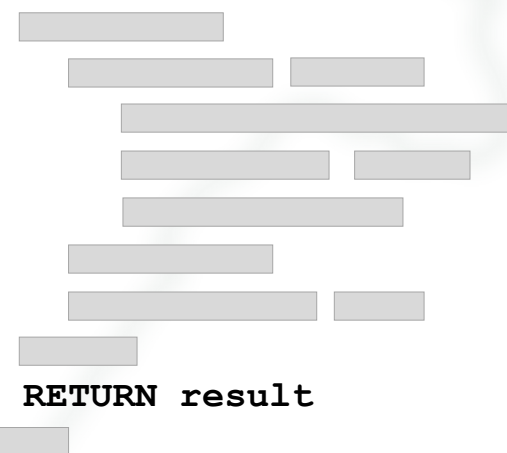
CalculateResult



num = Add(2, 5)



Add(num1, num2)




RETURN result

Age Group	Percentage
18-24	10
25-34	35
35-44	25
45-54	15
55-64	10
65+	5

```

num = Add(2, 5)

```



RETURN result

Example

مثال

Subtract(num1, num2)



مرکزی پروگرام
Main Program

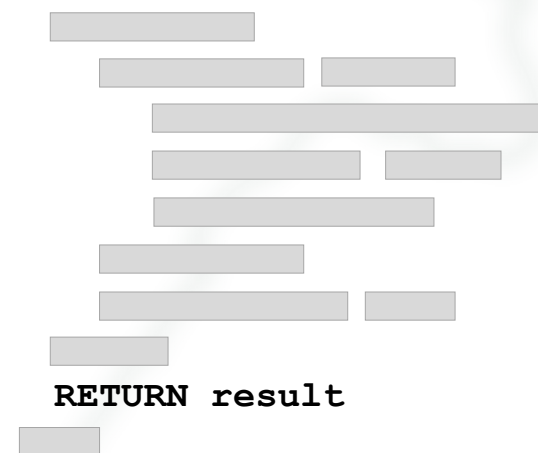
CalculateResult



num = 7



Add(num1, num2)



RETURN result

Example

مثال

Subtract(num1, num2)

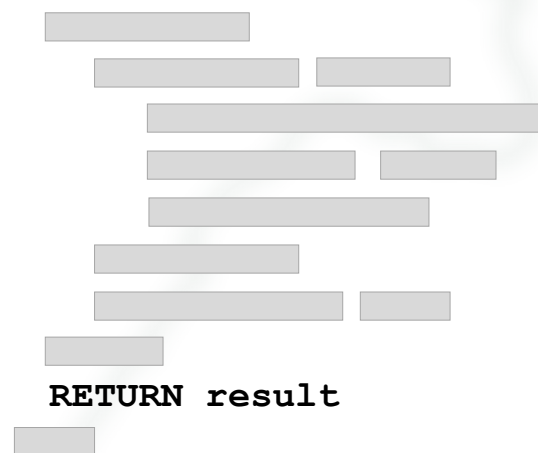


مرکزی پروگرام
Main Program

CalculateResult



Add(num1, num2)



Example

مثال

Subtract(num1, num2)

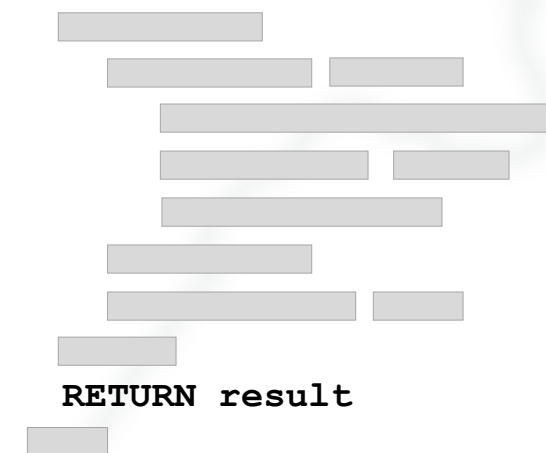


مرکزی پروگرام
Main Program

CalculateResult



Add(num1, num2)



Example

مثال

Subtract(num1, num2)

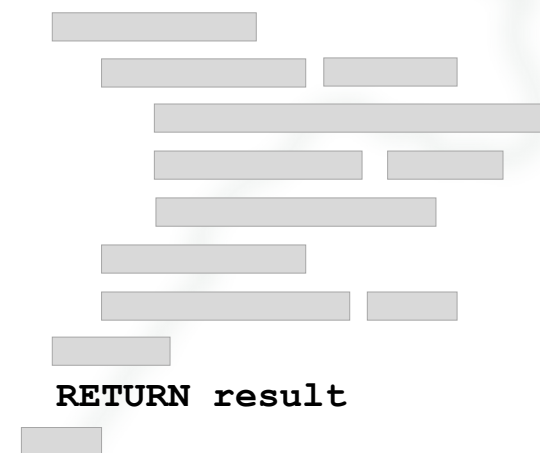


مرکزی پروگرام
Main Program

CalculateResult



Add(num1, num2)



Example

مثال

```
Subtract (num1, num2)
```

Age Group	Percentage
18-24	10
25-34	45
35-44	25
45-54	15
55-64	10
65-74	5
75-84	2
85-94	1
95-104	0.5
105-114	0.5

مرکزی پروگرام
Main Program

CalculateResult

```
num = Add(2, 5)
```

```
Add (num1, num2)
```

```

graph TD
    B1[ ] --> B2[ ]
    B2 --> B3[ ]
    B3 --> B4[ ]
    B4 --> B5[ ]
    B5 --> B6[ ]
    B6 --> B7[ ]
    B7 --> B8[ ]
    B8 --> B9[ ]
    B9 --> B10[ ]
    B10 --> B11[ ]
    B11 --> B12[ ]
    B12 --> B13[ ]
    B13 --> B14[ ]
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    B16 --> B17[ ]
    B17 --> B18[ ]
    B18 --> B19[ ]
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    B213 --> B214[ ]
    B214 --> B215[ ]
    B215 --> B216[ ]
    B216 --> B217[ ]
    B217 --> B218[ ]
    B218 --> B219[ ]
    B219 --> B220[ ]
    B220 --> B221[ ]
    B221 --> B222[ ]
    B222 --> B223[ ]
    B223 --> B224[ ]
    B224 --> B225[ ]
    B225 --> B226[ ]
    B226 --> B227[ ]
    B227 --> B228[ ]
    B228 --> B229[ ]
    B229 --> B230[ ]
    B230 --> B231[ ]
    B231 --> B232[ ]
    B232 --> B233[ ]
    B233 --> B234[ ]
    B234 --> B235[ ]
    B235 --> B236[ ]
    B236 --> B237[ ]
    B237 --> B238[ ]
    B238 --> B239[ ]
    B239 --> B240[ ]
    B240 --> B241[ ]
    B241 --> B242[ ]
    B242 --> B243[ ]
    B243 --> B244[ ]
    B244 --> B245[ ]
    B245 --> B246[ ]
    B246 --> B247[ ]
    B247 --> B248[ ]
    B248 --> B249[ ]
    B249 --> B250[ ]
    B250 --> B251[ ]
    B251 --> B252[ ]
    B252 --> B253[ ]
    B253 --> B254[ ]
    B254 --> B255[ ]
    B255 --> B256[ ]
    B256 --> B257[ ]
    B257 --> B258[ ]
    B258 --> B259[ ]
    B259 --> B260[ ]
    B260 --> B261[ ]
    B261 --> B262[ ]
    B262 --> B263[ ]
    B263 --> B264[ ]
    B264 --> B265[ ]
    B265 --> B266[ ]
    B2
```

Example

مثال

Subtract(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
      [ ] [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
                    [ ]

```

مرکزی پروگرام
Main Program

CalculateResult

```

[ ]
  [ ] [ ]
    [ ]
      num = Add(2,5)
        [ ] [ ]
          num2 = Add(31,9)
            [ ]
              [ ] [ ]
                [ ]
                  [ ]
                    [ ]

```

Add(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
      [ ] [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
                    [ ]

```

RETURN result

Example

مثال

Subtract(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
    [ ] [ ]
    [ ]
  [ ]
  [ ] [ ]
[ ]
RETURN result
[ ]

```

مرکزی پروگرام
Main Program

CalculateResult

```

[ ]
  [ ] [ ]
    num = Add(2,5)
    [ ] [ ]
    num2 = Add(31,9)
    [ ]
    [ ] [ ]
    num3 = Subtract(11,7)
    [ ]
  [ ]

```

Add(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
    [ ] [ ]
    [ ]
  [ ]
  [ ] [ ]
[ ]
RETURN result
[ ]

```

Example 2

مثال ۲

```
Func2 (p1, p2, p3)
```

RETURN s

مرکزی پروگرام
Main Program

SomeProgram

Age Group	Percentage
18-24	45
25-34	65
35-44	85
45-54	65
55-64	75
65-74	55
75-84	65
85-94	35
95-104	5

Func1 ()

[illegible]

Example 2

مثال ۲

```
Func2 (p1, p2, p3)
```

RETURN s

مرکزی پروگرام
Main Program

SomeProgram

```

graph TD
    Func1[Func1()] -- calls --> Func2[Func2()]
    Func2 -- calls --> Func3[Func3()]
    Func3 -- calls --> Func4[Func4()]
    Func4 -- returns --> Func3
    Func3 -- returns --> Func2
    Func2 -- returns --> Func1
  
```

The diagram illustrates the call stack during the execution of `Func1()`. The stack grows from bottom to top as `Func1()` calls `Func2()`, which calls `Func3()`, which in turn calls `Func4()`. As each function completes its execution, it returns control to the caller, and its frame is removed from the stack. The stack is empty when `Func1()` finishes.

Func1 ()

The diagram consists of 10 horizontal bars of varying lengths and positions, arranged in a staggered, descending fashion from top-left to bottom-right. The bars are light gray with black outlines. The sequence of bars is as follows:

- Bar 1: Top-left, medium length.
- Bar 2: Below Bar 1, shifted right, medium length.
- Bar 3: Below Bar 2, shifted right, medium length.
- Bar 4: Below Bar 3, shifted right, long length.
- Bar 5: Below Bar 4, shifted right, medium length.
- Bar 6: Below Bar 5, shifted right, medium length.
- Bar 7: Below Bar 6, shifted right, long length.
- Bar 8: Below Bar 7, shifted right, medium length.
- Bar 9: Below Bar 8, shifted right, short length.
- Bar 10: Bottom-left, short length.

Example 2

مثال ۲

Func2 (p1, p2, p3)

```

[ ]
  [ ] [ ]
    [ ]
      [ ] [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
                    [ ]
                      [ ]
                        [ ]
                          [ ]
                            [ ]
                              [ ]
                                [ ]
                                  [ ]
                                  RETURN s
                                  [ ]

```

مرکزی پروگرام
Main Program

SomeProgram

```

[ ]
  pk = Func2 (1, 'Khi', 'Lhr')
  [ ]
    [ ] [ ]
      [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
                    [ ]
                      [ ]
                        [ ]
                          [ ]
                            [ ]
                              [ ]
                                [ ]
                                  [ ]
                                  Func1 ()
                                  [ ]

```

Func1 ()

```

[ ]
  [ ] [ ]
    [ ]
      [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
                    [ ]
                      [ ]
                        [ ]
                          [ ]
                            [ ]
                              [ ]
                                [ ]
                                  [ ]
                                  [ ]
                                  [ ]
                                  [ ]

```


Example

مثال

Subtract(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
      [ ] [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
RETURN result
[ ]

```

مرکزی پروگرام
Main Program

CalculateResult ()

```

[ ]
  [ ] [ ]
    num = Add(2,5)
      [ ] [ ]
        num2 = Add(31,9)
          [ ]
            [ ] [ ]
              num3 = Subtract(11,7)
                [ ]
                  [ ]

```

Add(num1, num2)

```

[ ]
  [ ] [ ]
    [ ]
      [ ] [ ]
        [ ]
          [ ]
            [ ]
              [ ]
                [ ]
                  [ ]
RETURN result
[ ]

```

Summary

Re-usability
Function Call
RETURN statement
Parameters (zero to n)
Parenthesis - Used in declarator for parameters

خلاصہ

دوبارہ استعمال شدہ
فونکشن کال
واپسی کا بیان
پیرامیٹرز (صفر سے این)
پیرنٹھیسس - پیرامیٹرز کے لئے دیکلاریٹر میں استعمال ہوتے ہیں