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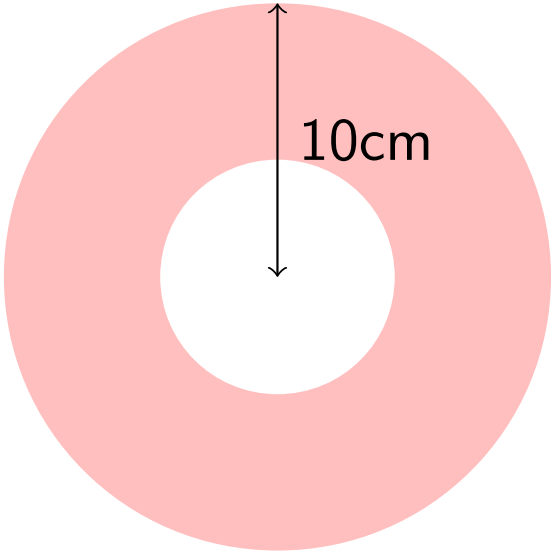

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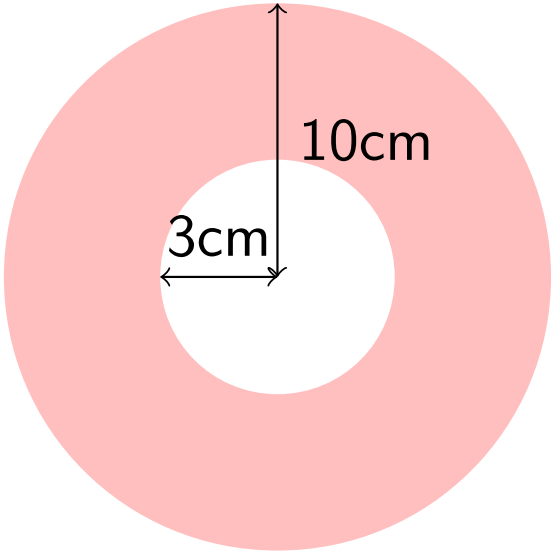

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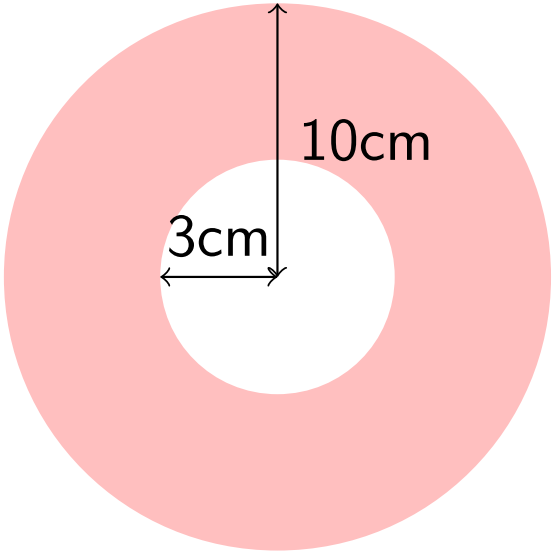

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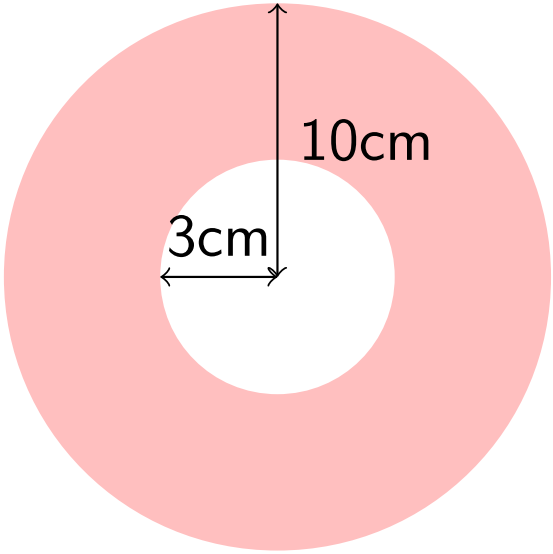

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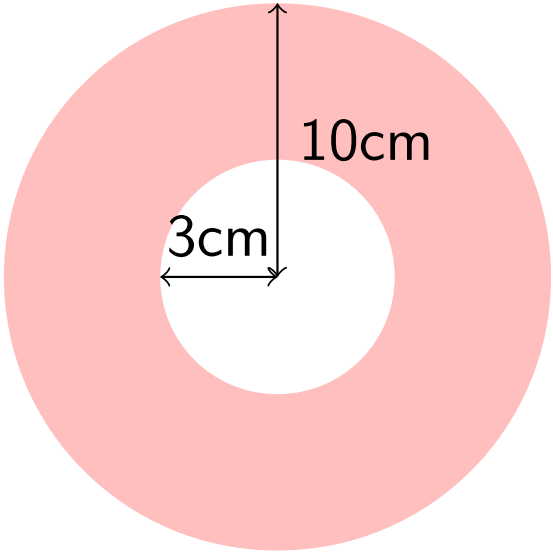

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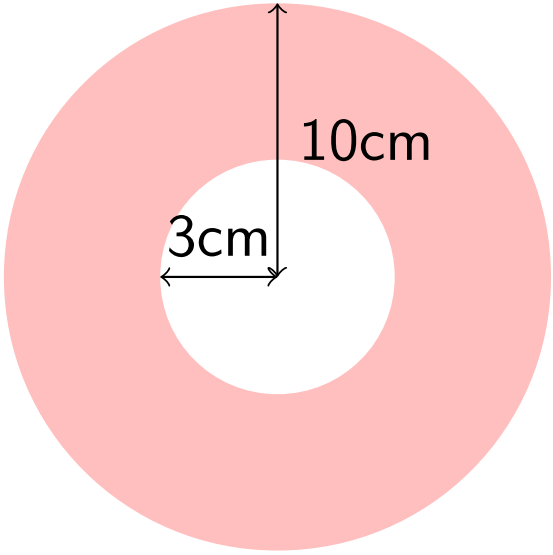

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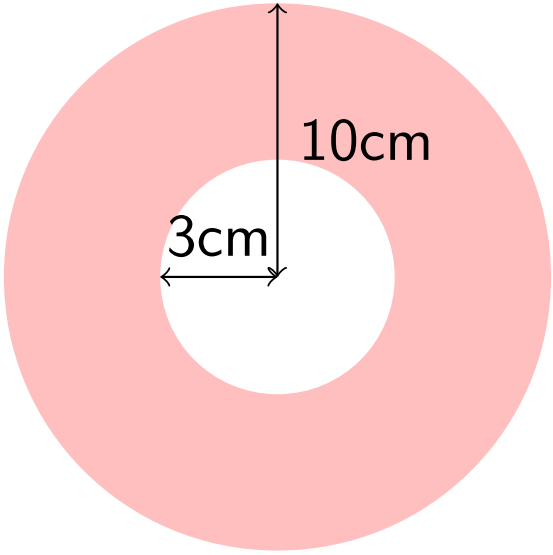

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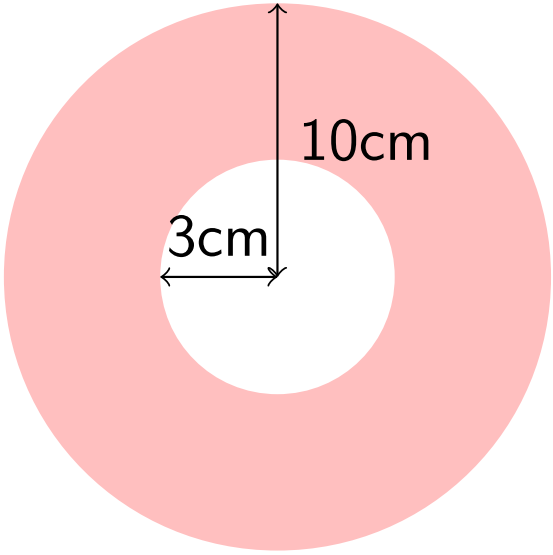

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- Input parameters are **pass**ed — "pass 10"

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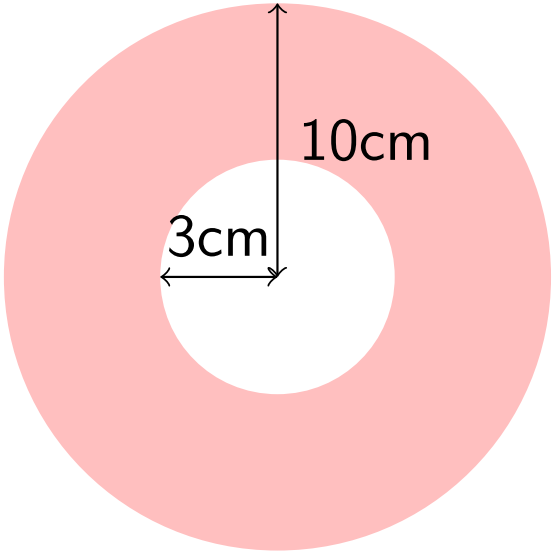

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Functions are used in place of their explicit *algorithms*
Some Terminology:

- Functions are **call**ed — "call circle_area"
- Input parameters are **pass**ed — "pass 10"
- Output values are **return**ed — "returns 314.159"

Builtin Functions

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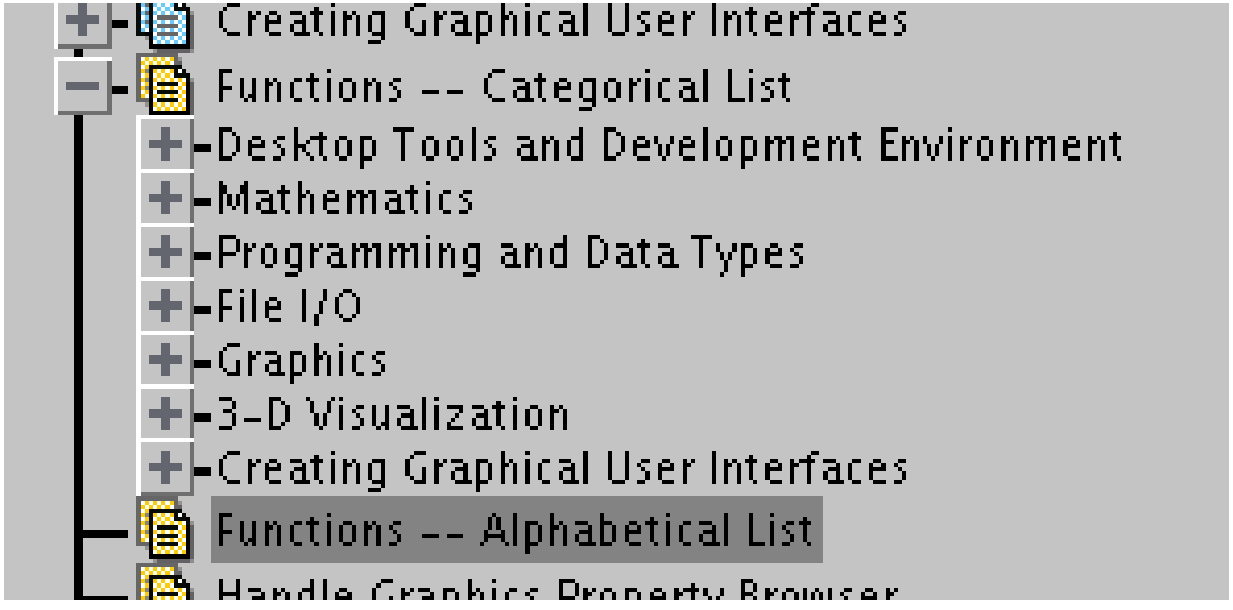
Your best reference is the Matlab Help system



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Possible contents of `circle_area.m`

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function area = circle_area( radius )
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Let's unpack it...

Anatomy of a Function

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function area = circle_area( radius )
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Anatomy of a Function

tells matlab we are defining a function

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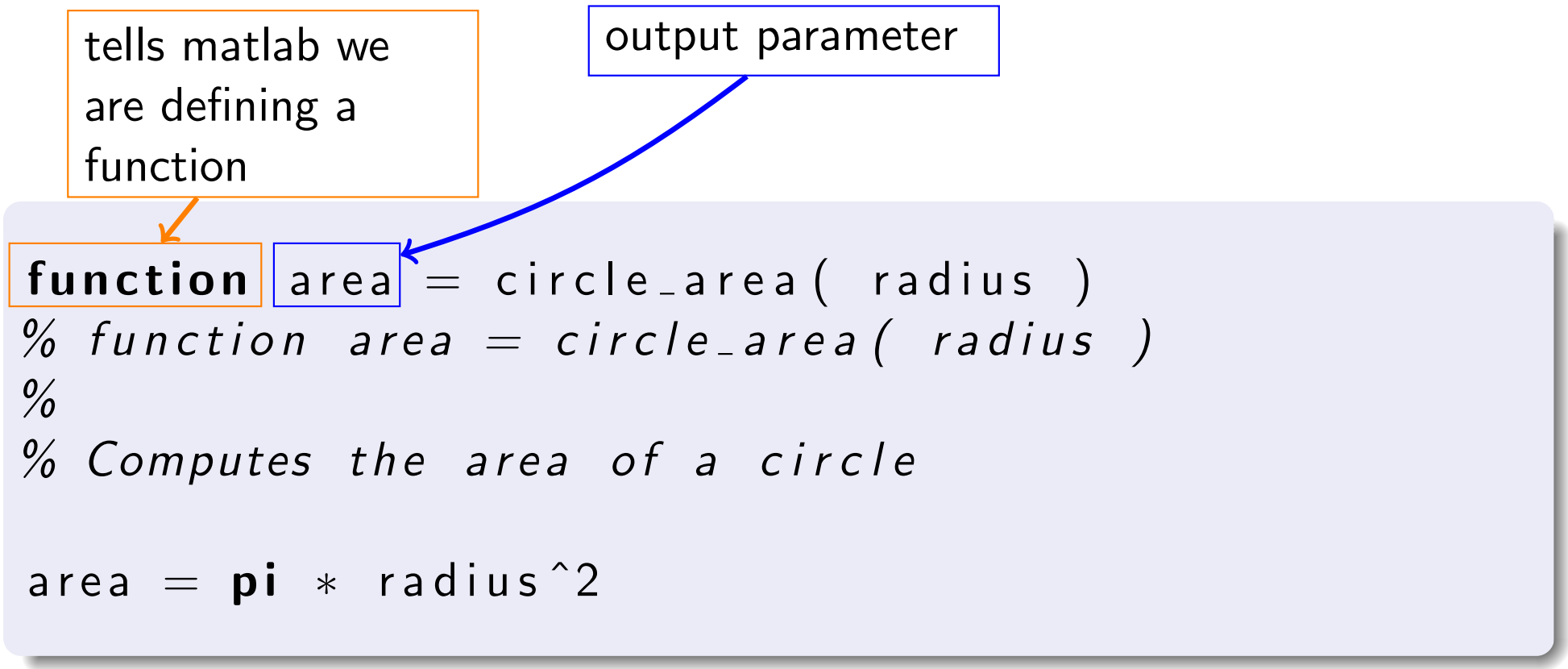
Anatomy of a Function



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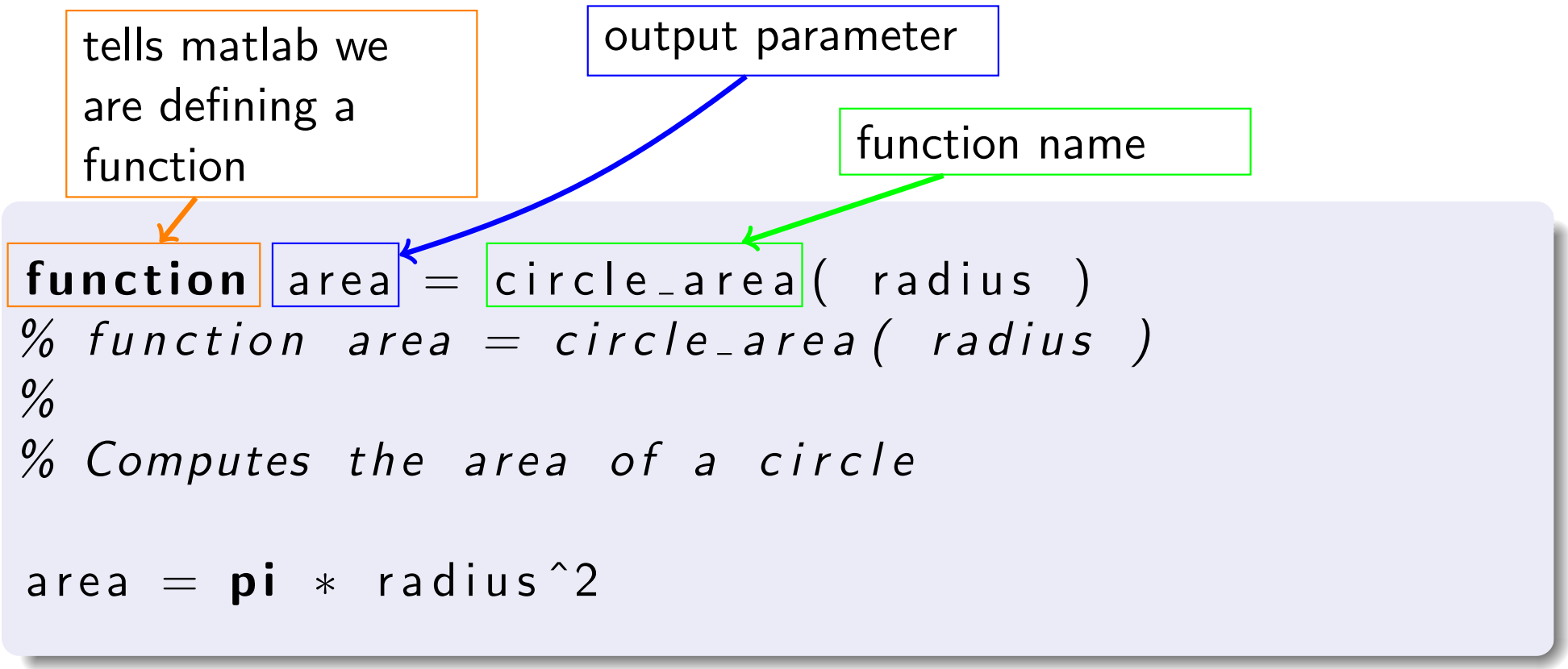

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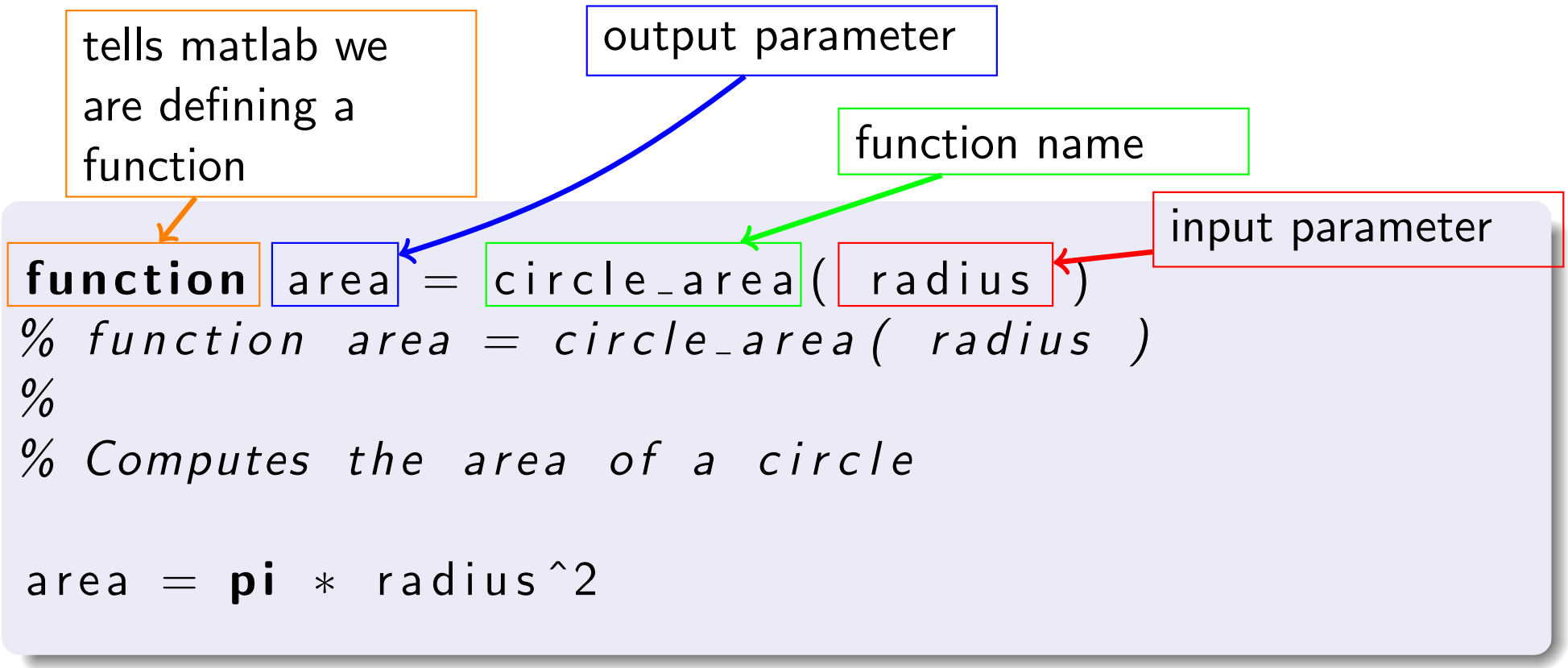

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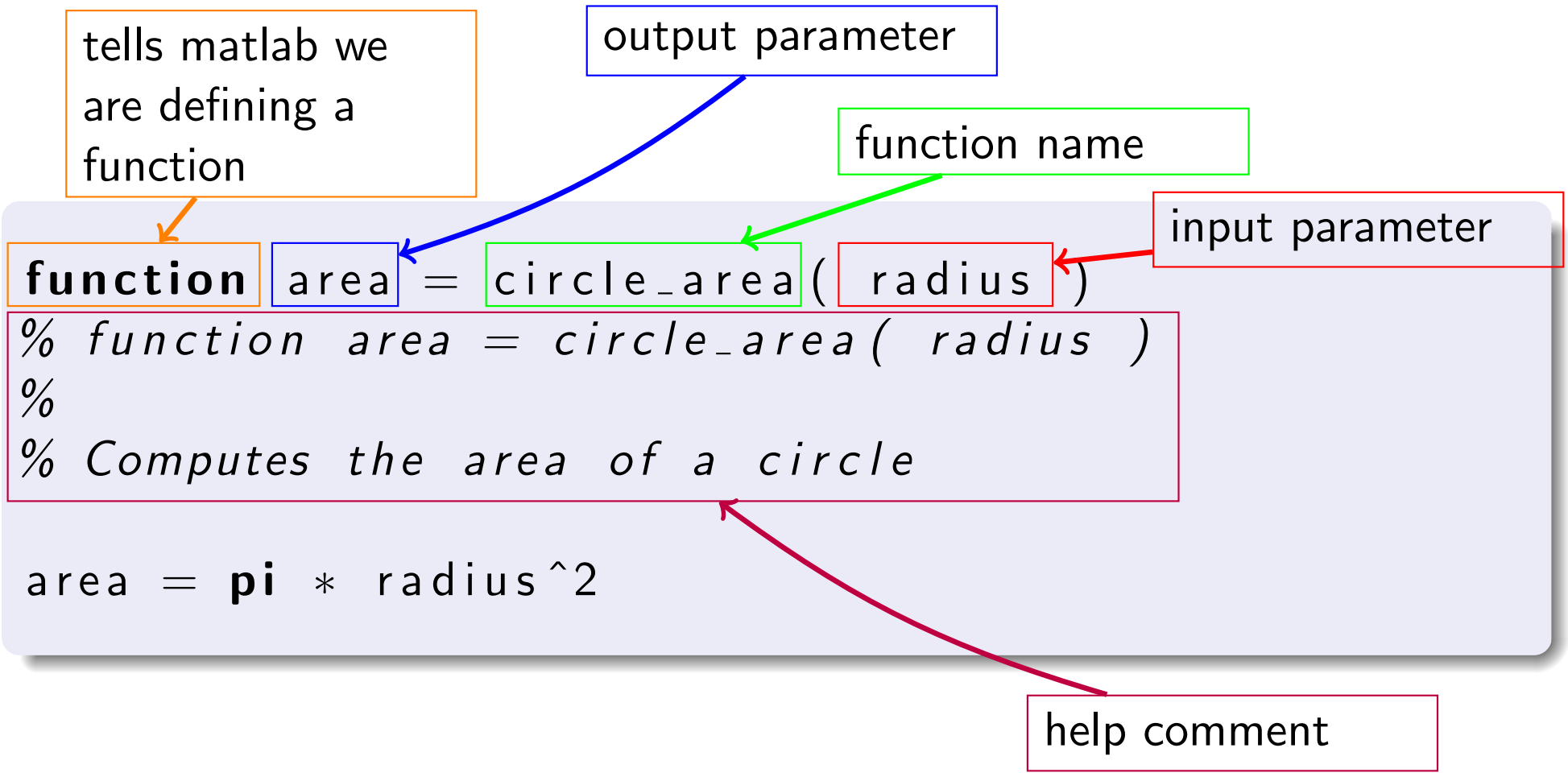

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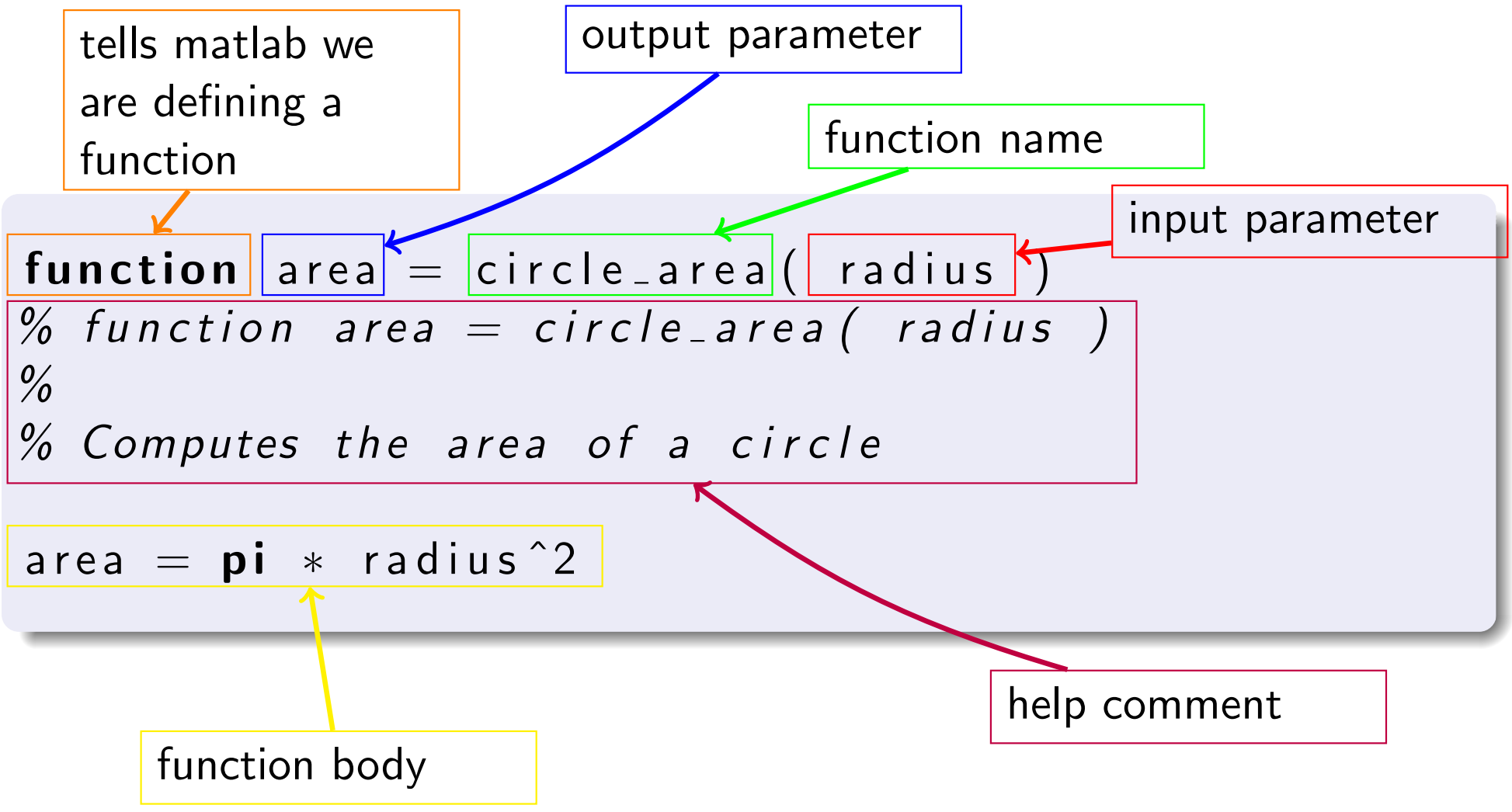

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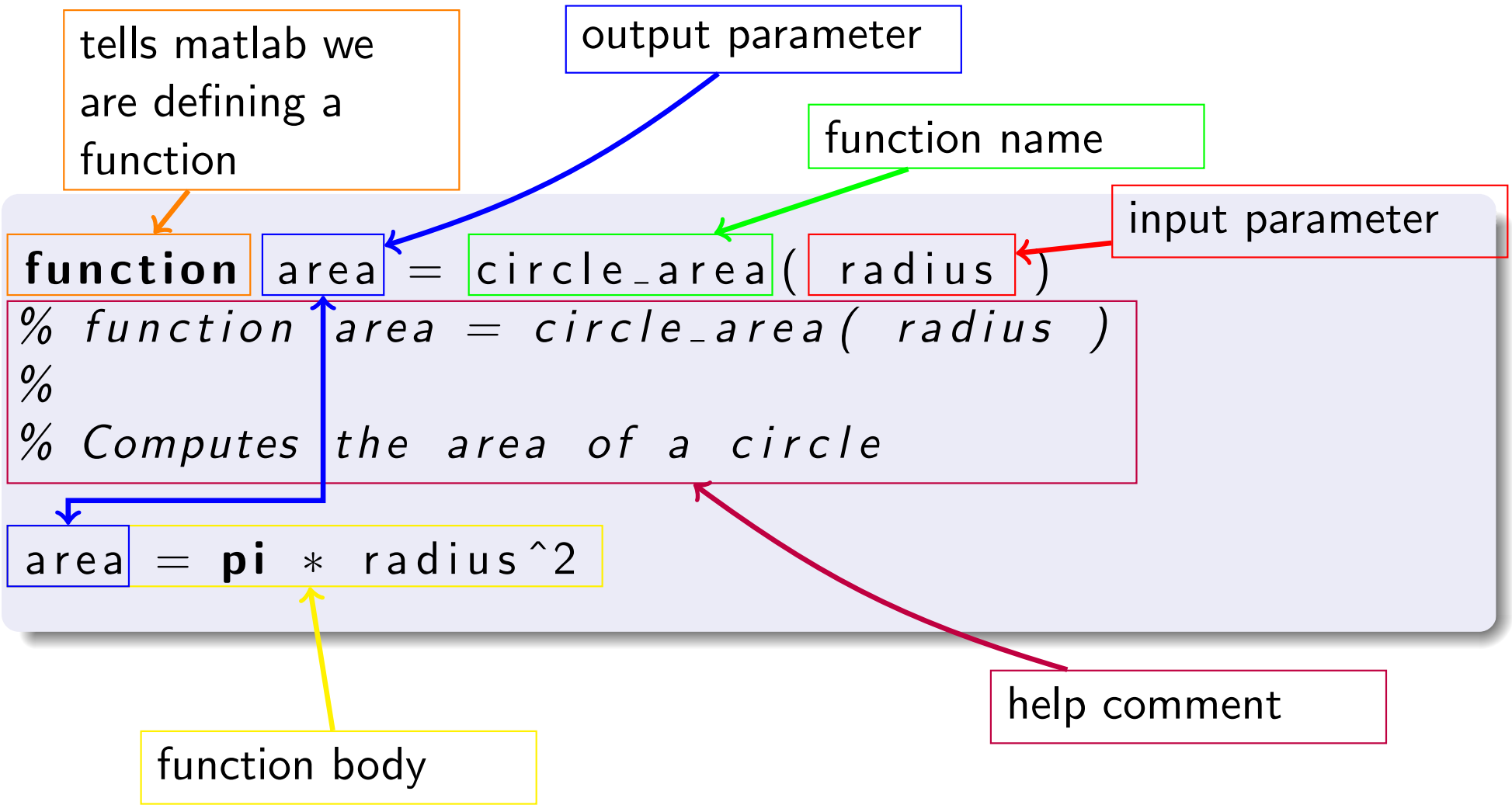

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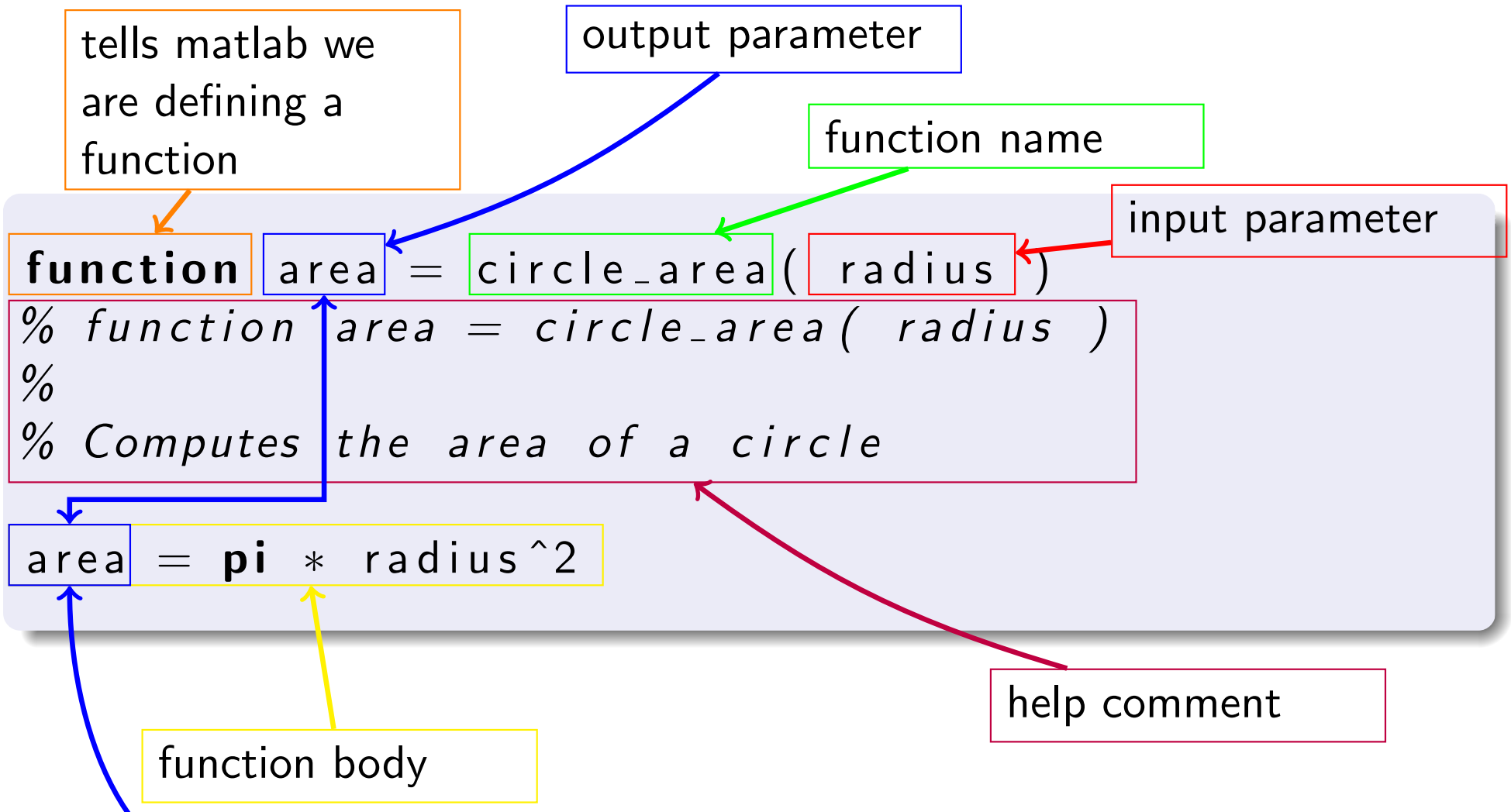

Other Languages
Common

C

```c
float circle_area(float radius)
{
    float area;

    area = MATH_PI * radius * radius;

    return area;
}
```

Python

```python
def circle_area(radius):
    area = math.pi * radius^2

    return area
```

Other Languages
Less Common

FORTRAN

```
      real function circle_area(radius)
c Compute the area of a circle
      real radius
      parameter(pi = 3.14159)
      circle_area = pi * radius**2
      return
```

Haskell

```
circle_area :: Num a => a -> a
circle_area radius = pi * radius^2
```