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# Methods

Week 5

IST 256

Application Programming for Information Systems

# Concept of Procedures and Functions

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- All modern programming languages have a way to break the program into smaller pieces by placing a piece of code in a procedure or function
  - This type of modularization is good programming design
  - Often entire sections of code need to be repeated in different parts of the program, for example sorting a list of data, and making it into a procedure streamlines the process
    - Write once, use many times
- Java calls these **methods**

# Use methods to organize tasks

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- Suppose you have a task called ABC; use a method to contain the task code:

```
public static void main(String[] args) {  
    int number;  
    ...  
    ...  
    ABC (number)  
    ...  
    ...  
}  
  
    public void ABC (int targetnum) {  
        ...  
        ...  
    }
```

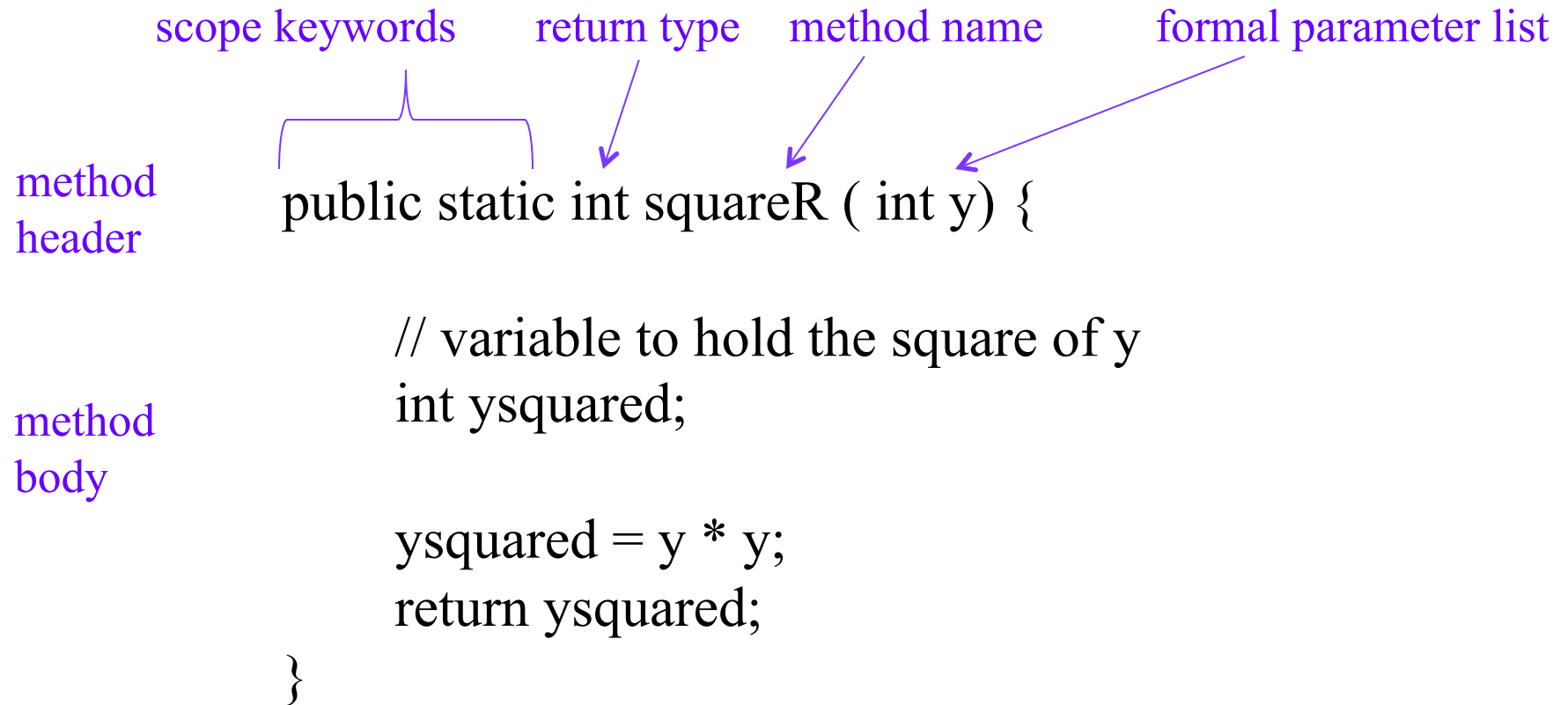
# Organize code into methods

```
public static void main(String[] args) {  
    String query = "???" ;  
    String results;  
    .....  
    results = search (query);  
    results = rank (results);  
    show_results(results);  
    ...  
    ...  
}
```

```
private String search (String query) {  
    String results;  
    ...  
    return results;  
}
```

# Method definition

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# Method call

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- The method call gives an actual parameter value, which is copied to be the value of the formal parameter

method  
call

```
int result;
```

```
// save the result of the method  
result = squareR ( 33 );
```

# Flow of control for method calls

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