Tutorial 09

Objects & Classes: Methods | Constructors | Access Control

Exercise 1:

Given the following method, point out the following:

a) Modifier
b) Return type
c) Returned value
d) Method header
e) Method signature
f) Method name
g) Parameters list
h) Method body

```
public static int max(int num1, int num2) {
  int result = 0;
  if (num1 > num2)
    result = num1;
  else
    result = num2;
  return result;
}
```

Exercise 2:

Show the output of the following program:

```
class Test {
  public static void method1(int i, int num) {
    for (int j=1; j <= i; j++) {
      System.out.print(num + " ");
      num *= 2;
    }
    System.out.println();
  }

  public static void main(String[] args) {
    int i = 1;
    while (i <= 6) {
      method1(i, 2);
      i++;
    }
  }
}
```

Exercise 3

Implement the class Time in Java
Attributes:

- **sec**: seconds between 0 and 59
- **min** : minutes between 0 and 59
- **hour** : can be any positive integer

Methods

- **readTime** : reads values of sec, min and hour from the keyboard
- **fixTime** : assures that sec and min are in the appropriate ranges
- **toSec** : converts the time to seconds
- **addSec** : increases the seconds by amount s, keeping sec and min within ranges
- **addMin** : increases the minutes by amount m keeping sec and min within ranges
- **addHour** : increases the hours by amount h
- **addTime** : increases the time by sec, min, hour of t
- **display** : prints the attribute values in the format: hour:mm:ss

Exercise 4

Write a program that uses class Time to do the following:

- create two objects t1 and t2 of class Time and read their information
- increase t1 by 37 seconds and t2 by 15 minuetes
- Tell whither t1 occurs after t2 or not
- increase t1 by t2 and print it