

My first Java execution

22100061

권혁민

1 Versions of compiler and Java Virtual machine r Java

```
khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ javac -version
javac 21.0.2

khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ java -version
java version "21.0.2" 2024-01-16 LTS
Java(TM) SE Runtime Environment (build 21.0.2+13-LTS-58)
Java HotSpot(TM) 64-Bit Server VM (build 21.0.2+13-LTS-58, mixed mode, sharing)
```

2 Successfully compiled the code from the class

```
khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ javac -d bin src/edu/handong/csee/java/university/lecture/*.java
```

3 Class files are correctly created

```
khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ ls bin/edu/handong/csee/java/university/lecture
Classroom.class  Student.class
```

4 Disassembled bytecode of Classroom.java

```
khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/HandongClass
$ javap -c bin/edu/handong/csee/java/university/lecture/Classroom.class
Compiled from "Classroom.java"
public class edu.handong.csee.java.university.lecture.Classroom {
    public edu.handong.csee.java.university.lecture.Classroom();
        code:
            0: aload_0
            1: invokespecial #1                  // Method java/lang/Object."<init>":()V
            4: aload_0
            5: new           #7                  // class java/util/ArrayList
            8: dup
            9: invokespecial #9                  // Method java/util/ArrayList."<init>":()V
            12: putfield     #10                 // Field students:Ljava/util/ArrayList;
            15: return

    public void setNumOfStudents(int);
        code:
            0: getstatic    #16                 // Field java/lang/System.out:Ljava/io/PrintStream;
            3: iload_1
            4: invokedynamic #22, 0              // InvokeDynamic #0:makeConcatWithConstants:(I)Ljava/lang/String;
            9: invokevirtual #26                 // Method java/io/PrintStream.println:(Ljava/lang/String;)V
            12: aload_0
            13: iload_1
            14: putfield     #32                 // Field numOfStudents:I
            17: return

    public int getNumOfStudents();
        code:
            0: aload_0
            1: getfield     #32                 // Field numOfStudents:I
            4: ireturn

    public void setNumOfChairs(int);
        code:
            0: getstatic    #16                 // Field java/lang/System.out:Ljava/io/PrintStream;
            3: iload_1
            4: invokedynamic #36, 0              // InvokeDynamic #1:makeConcatWithConstants:(I)Ljava/lang/String;
            9: invokevirtual #26                 // Method java/io/PrintStream.println:(Ljava/lang/String;)V
            12: aload_0
            13: iload_1
            14: putfield     #37                 // Field numOfChairs:I
            17: return

    public int getNumOfChairs();
        code:
            0: aload_0
            1: getfield     #37                 // Field numOfChairs:I
            4: ireturn

    public void setClassroomNumber(java.lang.String);
        code:
            0: getstatic    #16                 // Field java/lang/System.out:Ljava/io/PrintStream;
            3: aload_1
            4: invokedynamic #40, 0              // InvokeDynamic #2:makeConcatWithConstants:(Ljava/lang/String;)Ljava/lang/String;
            9: invokevirtual #26                 // Method java/io/PrintStream.println:(Ljava/lang/String;)V
            12: aload_0
```

```

;V
    12: aload_0
    13: iload_1
    14: putfield      #37          // Field numofChairs:I
    17: return

public int getNumofChairs();
    Code:
        0: aload_0
        1: getfield      #37          // Field numofChairs:I
        4: ireturn

public void setClassroomNumber(java.lang.String);
    Code:
        0: getstatic     #16          // Field java/lang/System.out:Ljava/io/PrintStream;
        3: aload_1
        4: invokedynamic #40, 0      // InvokeDynamic #2:makeConcatWithConstants:(Ljava/lang/
string;)Ljava/lang/String;
        9: invokevirtual #26          // Method java/io/PrintStream.println:(Ljava/lang/String
;V
    12: aload_0
    13: aload_1
    14: putfield      #43          // Field classroomNumber:Ljava/lang/String;
    17: return

public java.lang.String getClassroomNumber();
    Code:
        0: aload_0
        1: getfield      #43          // Field classroomNumber:Ljava/lang/String;
        4: areturn

public void addStudent(edu.handong.csee.java.university.lecture.Student);
    Code:
        0: aload_0
        1: getfield      #10          // Field students:Ljava/util/ArrayList;
        4: aload_1
        5: invokevirtual #47          // Method java/util/ArrayList.add:(Ljava/lang/Object;)Z
        8: pop
        9: aload_0
       10: aload_0
       11: getfield      #32          // Field numofStudents:I
       14: iconst_1
       15: iadd
       16: putfield      #32          // Field numofStudents:I
       19: return
}

khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ |

```

5 Showing that the program can run.

```

khm38@권혁민 MINGW64 /c/권혁민/한동대학교/2/1학기/JAVA/2024_03_13/Handongclass
$ java -cp 'bin;classes' edu.handong.csee.java.university.Runner
Here is my name: JC
JC
Here is my name: JH
JH
Here is my name: HGU
HGU
Set the room #: NTH412
In NTH412, we have 3

```

- 6
1. Since it was my first-time using git bash, it was difficult to use and play with. Especially to run and compile using code lines was difficult to use.
 2. It was interesting to create directories using git bash code lines. I now realize why code programmers tend to use mac book since it has got cmd which in window you have to download git bash to use.
 3. I have learned that to run java files that are separately built (meaning different classes in different java files), you must connect them using "import" command. Also, learned how to play around with git bash.