P2:

* Classes

1. Guitar :

- Fields: serialnumber, price, builder, model, backwood, topwood

-Methods: create sound

1. Inventory:

- Fields: list of guitars

-Methods: add guitar, search by serial number

-UML

| Guitar |
| --- |
| -Serialnumber: String  -Price: Double  -Builder: String  -Model: String  -Backwood: String  -Topwood: String |
| Create sound(): void |

| Inventory |
| --- |
| Guitar: List<Guitar> |
| -Add guitar(guitar : Guitar): void  -Search (serial number= String): Guitar |

P4:

What is stored in the static heap, stack, dynamic heap?

- Static heap, the class objects and static variables are stored.

- Stack, the method calls, local variables, and object references are stored.

- Dynamic heap, the objects are stored.

- What are objects in the program?

- obj1 and obj2.

- What is the state of obj1, obj2?

- The state of obj1 is empty values for all fields.

- The state of obj2 is the values assigned during its constructor.

- Do you access all fields of - obj1 in the class Tester.java? Why?

- No. Because obj1’s fields are private and we can access all fields of obj1 in its class.

- What is the current object when the program runs to the line “obj2.createSound();”?

- obj2.

- In the method main, can you use the keyword “this” to access all fields of obj2? Why?

- No. Because main is a static method and also main is in Tester class, not in Guitar class.