1.

Write the entire **Horse** class. It has the following:

* A field for its name and a field for its weight
* A 2 argument constructor to set the fields.
* Getters and setters for the fields.

2.

Write the entire **Mustang** class which is a subclass of **Horse**. It has the following:

* An additional field - **speed** - which is a double
* A 3 argument constructor to set the fields
* A getter for speed.
* A method called **train** which increases the Mustang’s speed by 1-5 miles per hour (chosen randomly)
* A toString method that returns a String containing the Mustang’s name and speed:
  + Ex - “Bolt can run at 50 mph!”

3.

Complete the method, **createBarn**, that will create and return a barn (array) of horses.

The input will be an array of Strings containing names for horses.

Ex - {“Jimmy”, “Sarah”, “Brian”, “Felipe”}

The output will be an **array of horse objects**. You can randomly generate a weight for each horse (the average horse weighs 660 pounds according to Google)

4.

Each year the slowest Mustang in the Mustang barn is sent to the glue factory.

Write a method that, given an array of Mustangs, finds the slowest Mustang and removes it from the array (set that index to null).

Additionally, we don’t want the front slots of the barn to be empty. Shift all horses to the right of the removed horse one slot to the left so that the last index of the Array is null.

Ex.

**BEFORE GLUE EXAMPLE**

| “Jimmy”  speed = 45 | “Brian”  Speed = 40 | “Sarah”  speed = 49 | “Felipe”  speed = 47 |
| --- | --- | --- | --- |

**AFTER GLUE EXAMPLE**

| “Jimmy”  speed = 45 | “Sarah”  speed = 49 | “Felipe”  speed = 47 | null |
| --- | --- | --- | --- |