```
-Virtual Dog-

  _    _
/(. .)\      )
   (*)____/|
  /        |
 /    |--\ |
(_)(_)   (_)
Please Enter a name for your pet
Dog:
Danny
Initializing Stats...
-Danny's Stats-
Hunger: 3
Cleanliness: 8
Happiness: 8
Health: 8
Danny was born!
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
1
Danny has their stomach satisfied
by the bowl of soup you offer.
-Danny's Stats-
Hunger: 4
Cleanliness: 8
Happiness: 8
Health: 8
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
2
Danny is sparkling clean after the
long bath you give them.
-Danny's Stats-
Hunger: 4
Cleanliness: 9
Happiness: 8
Health: 8
```

```
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
3
Danny seems much more positive after you
give them a big hug.
-Danny's Stats-
Hunger: 4
Cleanliness: 9
Happiness: 9
Health: 8
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
4
Danny looks much healthier after
their long rest.
-Danny's Stats-
Hunger: 4
Cleanliness: 9
Happiness: 9
Health: 9
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
1
Danny has their stomach satisfied
by the bowl of soup you offer.
-Danny's Stats-
Hunger: 5
Cleanliness: 9
Happiness: 9
Health: 9
Main Menu:
1. Feed
2. Wash
```

```
3. Play
4. Health
5. -Quit-
2
Danny smells great after the long
shower they take.
-Danny's Stats-
Hunger: 5
Cleanliness: 10
Happiness: 9
Health: 9
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
3
Danny's eyes sparkle after you
finish playing catch.
-Danny's Stats-
Hunger: 5
Cleanliness: 10
Happiness: 10
Health: 9
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
4
Danny looks much healthier after
their long rest.
-Danny's Stats-
Hunger: 5
Cleanliness: 10
Happiness: 10
Health: 10
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-

1
Danny shouts with joy as you
present a watermelon slice.
-Danny's Stats-
Hunger: 6
Cleanliness: 10
Happiness: 10
Health: 10
Main Menu:
1. Feed
2. Wash
3. Play
4. Health
5. -Quit-
2
Danny is sparkling clean after the
long bath you give them.
-Danny's Stats-
Hunger: 6
Cleanliness: 11
Happiness: 10
Health: 10

Danny Died of old age
Quitting Program...
```

```java
1  import java.util.Scanner;
2
3  public class Six {
4
5      public static void main(String[] args) {
6          //variable initialization
7          Scanner input = new Scanner(System.in);
8          int menuChoice = 0;
9
10         //prints a nice, formatted heading on the program
11         printPet();
12
13         //calls the constructor for the pet class and stores the name
14         //   read in from input
15         VirtualPet pet = new VirtualPet(input.nextLine());
16         System.out.println("Initializing Stats...");
17
18         //runs a loop until the user chooses to quit the program or until
19         //   the pet reaches the age of 10 and dies
20         do{
21             printStats(pet); //prints the stats in a nice format
22
23             //prints out the pet was born if the pet's age is 0
24             if(pet.getAge() == 0) {
25                 System.out.println(pet.getName() + " was born!");
26             }
27
28             printMenu(); //prints the menu for the user to see
29             menuChoice = input.nextInt(); //stores the menu input
30             //updates the stats of the pet based on the menu input
31             menuStatUpdate(menuChoice, pet);
32
33         } while(menuChoice != 5 && pet.getAge() < 10);
34
35         printStats(pet);
36
37         System.out.println();
38
39         //outputs based on the pet age
40         if(pet.getAge() < 10) {
41             System.out.println(pet.getName() + " ended up being "
42                     + pet.getAge() + " years old");
43         }
44         else {
45             System.out.println(pet.getName() + " Died of old age");
46         }
```

```java
47
48          System.out.println("Quitting Program...");
49      }
50
51      //formats the stats to print out to the console
52      public static void printStats(VirtualPet pet) {
53          System.out.println("-" + pet.getName() + "'s Stats-"
54                  + "\nHunger: " + pet.getHunger() + "\nCleanliness: "
55                  + pet.getCleanliness() + "\nHappiness: " + pet.getHappiness()
56                  + "\nHealth: " + pet.getHealth());
57      }
58
59      //formats the menu to print out to the console
60      public static void printMenu() {
61          System.out.println("Main Menu:\n1. Feed\n2. Wash\n3. Play\n"
62                  + "4. Health\n5. -Quit-");
63      }
64
65      //formatted heading to the program
66      public static void printPet() {
67          System.out.println( "-Virtual Dog-\r\n" + "  _    _\r\n" +
68                              "/(. .)\\     )\r\n" +
69                              "  (*)____/|\r\n" +
70                              " /        |\r\n" +
71                              " /    |--\\ |\r\n" +
72                              "(_)(_)  (_)\r\nPlease Enter a name for your pet"
73                              + "\nDog:");
74      }
75
76      //switch statement that checks the menu input choice and will
77      //  update the stat that matches the menu choice on the pet object
78      //  that is passed in with the choice
79      public static void menuStatUpdate(int choice, VirtualPet pet) {
80          switch(choice) {
81          case 1: pet.feed();
82                  pet.birthday();
83                  break;
84          case 2: pet.wash();
85                  pet.birthday();
86                  break;
87          case 3: pet.play();
88                  pet.birthday();
89                  break;
90          case 4: pet.health();
```

```java
 91                    pet.birthday();
 92                    break;
 93            //case where the user quits does nothing and will exit the loop
 94            case 5: break;
 95            //case where invalid input is entered will not increase the age
 96            //  but will proceed in the program
 97            default: System.out.println("Invalid input, please enter a valid "
 98                    + "number between 1 and 5");
 99            }
100        }
101
102 }
```

```java
1
2  public class VirtualPet {
3      private String name;
4      private int hunger;
5      private int cleanliness;
6      private int happiness;
7      private int health;
8      private int age;
9
10
11     public VirtualPet(String namef) {
12         //initialized variables
13         age = 0;
14         this.name = namef;
15         //randomly initialized variables
16         this.hunger = (int)(Math.random() * 10) + 1;
17         this.cleanliness = (int)(Math.random() * 10) + 1;
18         this.happiness = (int)(Math.random() * 10) + 1;
19         this.health = (int)(Math.random() * 10) + 1;
20     }
21
22     //getter methods
23     public String getName() {return name;}
24     public int getAge() {return age;}
25     public int getHunger() {return hunger;}
26     public int getCleanliness() {return cleanliness;}
27     public int getHappiness() {return happiness;}
28     public int getHealth() {return health;}
29
30     //setter methods
31     public void setName(String namef) { name = namef;}
32     public void setAge(int agef) { age = agef;}
33     public void setHunger(int hungerf) { hunger = hungerf;}
34     public void setCleanliness(int cleanlinessf) { cleanliness = cleanlinessf;}
35     public void setHappiness(int happinessf) { happiness = happinessf;}
36     public void setHealth(int healthf) { health = healthf;}
37
38     //stat update methods
39     public void feed() { //updates the hunger and outputs a random text dialog
40         setHunger(getHunger() + 1);
41         if((int)(Math.random()*2) == 0) {
42             System.out.println(getName() + " shouts with joy"
43                     + " as you\npresent a watermelon slice.");
44         }
45         else {
```

```java
46            System.out.println(getName() + " has their stomach"
47                    + " satisfied\nby the bowl of soup you offer.");
48        }
49    }
50
51    public void wash() { //updates the cleanliness and outputs a random text dialog
52        setCleanliness(getCleanliness() + 1);
53        if((int)(Math.random()*2) == 0) {
54            System.out.println(getName() + " is sparkling clean"
55                    + " after the\nlong bath you give them.");
56        }
57        else {
58            System.out.println(getName() + " smells great after"
59                    + " the long\nshower they take.");
60        }
61    }
62
63    public void play() { //updates the happiness and outputs a random text dialog
64        setHappiness(getHappiness() + 1);
65        if((int)(Math.random()*2) == 0) {
66            System.out.println(getName() + "'s eyes sparkle after"
67                    + " you\nfinish playing catch.");
68        }
69        else {
70            System.out.println(getName() + " seems much more positive"
71                    + " after you\ngive them a big hug.");
72        }
73    }
74
75    public void health() { //updates the health and outputs a random text dialog
76        setHealth(getHealth() + 1);
77        if((int)(Math.random()*2) == 0) {
78            System.out.println(getName() + " looks much healthier"
79                    + " after\ntheir long rest.");
80        }
81        else {
82            System.out.println(getName() + "'s muscles are looking"
83                    + " larger\nafter exercising.");
84        }
85    }
86
87    public void birthday() { //makes the pet a year older
88        age += 1;
89    }
90 }
```