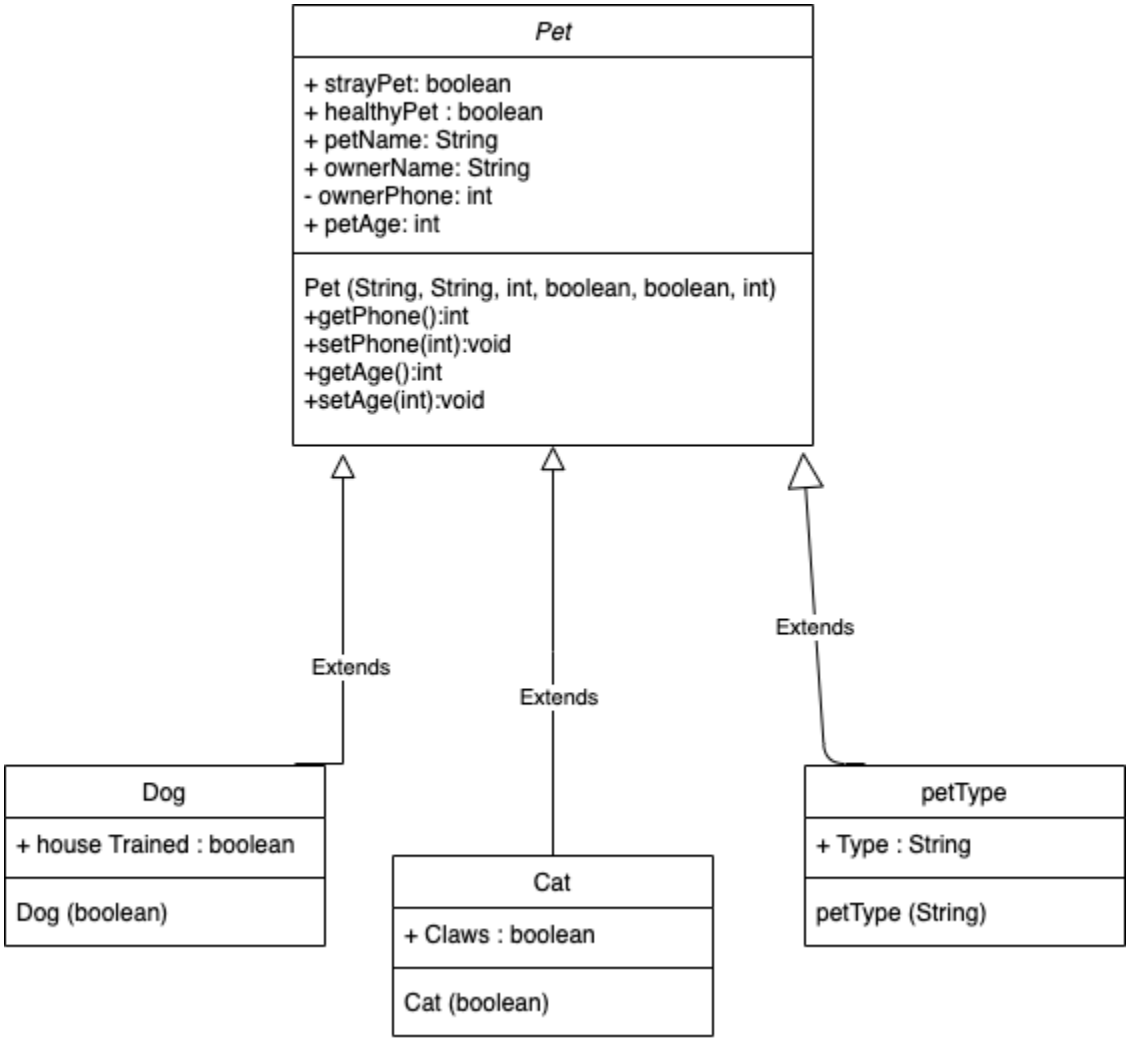
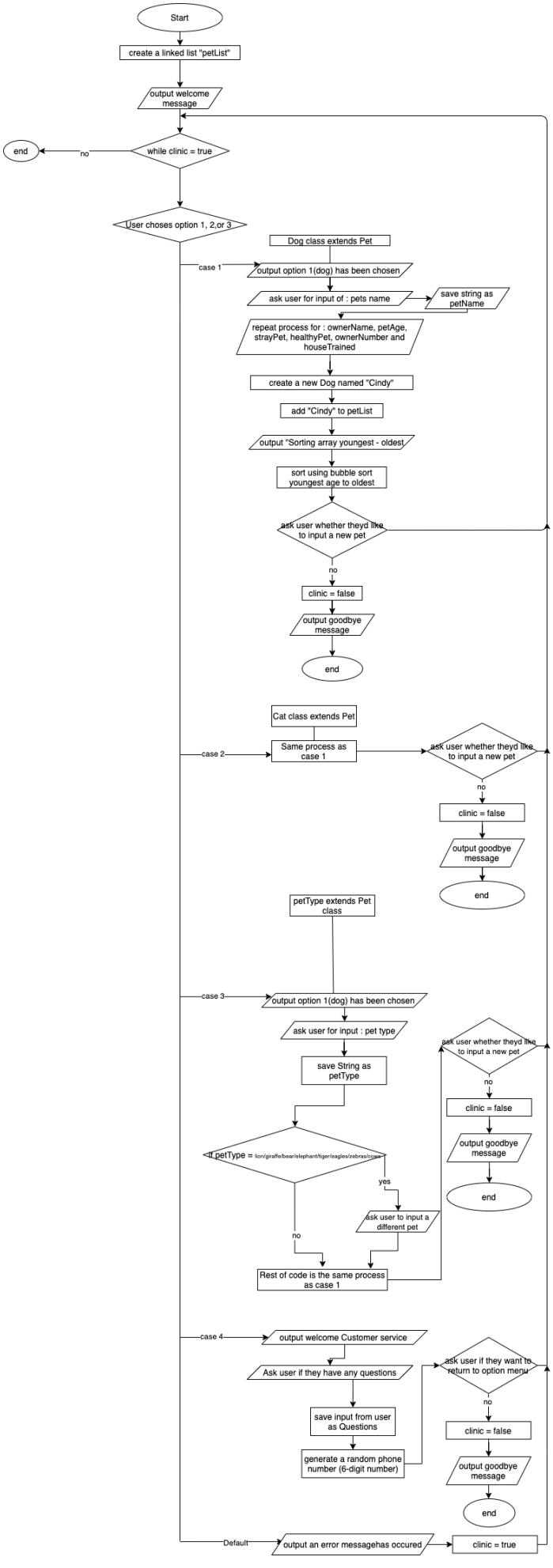
UML:



Flowchart:


Start
create a linked list "petList"
output welcome message
while clinic = true
no
end
User choses option 1, 2,or 3
case 1
Dog class extends Pet
output option 1(dog) has been chosen
ask user for input of : pets name
save string as petName
repeat process for : ownerName, petAge, strayPet, healthyPet, ownerNumber and houseTrained
create a new Dog named "Cindy"
add "Cindy" to petList
output "Sorting array youngest - oldest
sort using bubble sort youngest age to oldest
ask user whether theyd like to input a new pet
no
clinic = false
output goodbye message
end
case 2
Cat class extends Pet
Same process as case 1
ask user whether theyd like to input a new pet
no
clinic = false
output goodbye message
end
case 3
petType extends Pet class
output option 1(dog) has been chosen
ask user for input : pet type
save String as petType
if petType = lion/giraffe/bear/elephant/tiger/eagles/zebras/cows
yes
ask user to input a different pet
no
Rest of code is the same process as case 1
ask user whether theyd like to input a new pet
no
clinic = false
output goodbye message
end
case 4
output welcome Customer service
Ask user if they have any questions
save input from user as Questions
generate a random phone number (6-digit number)
ask user if they want to return to option menu
no
clinic = false
output goodbye message
end
Default
output an error messagehas occured
clinic = true

Pseudocode

Screenshot 1:

```
Object[]arrayPettt = petList.toArray();//make pet list into an array

int listLength = arrayPettt.length; //list length is equal to the length of the arrayPet

Object temp;

for (int i = 0; i < listLength; i ++) {
    for (int j = 0; j < listLength - (i+1); j++) {
        if ((((Pet) arrayPettt[j]).getAge() > ((Pet)arrayPettt[j+1]).getAge())){
            temp = arrayPettt [j];
            arrayPettt[j] = arrayPettt[j+1];
            arrayPettt[j+1] = temp;
        }
    }
}
System.out.println(Arrays.toString(arrayPettt)); // prints out the sorted pettt array
```

Object ARRAYPETTT = PETLIST
int LISTLENGTH = ARRAYPETTT.length

Object TEMP

loop int i from 0 to LISTLENGTH to i++)
	Loop int j from 0 to LISTLENGTH- (i + 1)
	if ARRAYPETTT [j].get Age() > ARRAYPETTT[j+1) get Age ()then
		TEMP = ARRAYPETTT[j]
		ARRAYPETTT[j] = ARRAYPETTT[j+1}
		ARRAYPETTT[j+1] = TEMP
		End if
	End loop
End loop

OUTPUT ARRAYPETTT