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# IT 145 Global Rain Summary Report Template

## Directions

Place your pseudocode, flowchart, and explanation in the following sections. Before you submit your report, remove all bracketed text.

## Pseudocode

When you are done implementing the Pet class, refer back to the Pet BAG Specification Document and select either the pet check in or check out method. These methods are detailed in the Functionality section of the specification document.

Write pseudocode that lays out a plan for the method you chose, ensuring that you organize each step in a logical manner. Remember, you will *not* be creating the actual code for the method. You do *not* have to write pseudocode for both methods. Your pseudocode must not exceed one page.

START Program

GET INPUT “Are you checking in a dog or cat today?” SAVE as petType

IF petType is “dog”, CHECK dogSpaces

IF dogSpaces < 30,

SUBTRACT dogSpaces – 1 and SAVE new number as dogSpaces

GET INPUT “Space available, please enter pet name.” SAVE as petName

GET INPUT “What is your pet’s age in years?” SAVE as petAge

GET INPUT “How many days of boarding will you need?” SAVE as daysStay

IF daysStay >= 2,

GET INPUT “Would you like your pet to be groomed?” SAVE as grooming

GET INPUT “What is your pet’s weight?” SAVE as dogWeight

ASSIGN and SAVE dogSpaceNumber between 1-30 (no repeating numbers)

PRINT “Thank you, your booking is complete.”

END Program

ELSE IF dogSpaces >= 30, PRINT “Sorry, there is no space available at this time.”

END Program

ELSE IF petType is “cat”, CHECK catSpaces

IF catSpaces < 12,

SUBTRACT catSpaces – 1 and SAVE new number as catSpaces

GET INPUT “Space available, please enter pet name.” SAVE as petName

GET INPUT “What is your pet’s age in years?” SAVE as petAge

GET INPUT “How many days of boarding will you need?” SAVE as daysStay

ASSIGN and SAVE catSpaceNumber between 1-12 (no repeating numbers)

PRINT “Thank you, your booking is complete.”

END Program

ELSE IF catSpaces >= 12, PRINT “Sorry, there is no space available at this time.”

END Program

## Flowchart

Based on the pseudocode you wrote, create a flowchart using a tool of your choice for the method you selected. In your flowchart, be sure to include start and end points and appropriate decision branching, and align the flowchart to the check in or check out process. Your flowchart must be confined to one page.

A diagram of a flowchart

Description automatically generated

## OOP Principles Explanation

Briefly explain how you applied object-oriented programming principles and concepts (such as encapsulation, inheritance, and so on) in your software development work thus far. Your explanation should be one paragraph, or four to six sentences.

In order to complete this program, I have used object-orientated principles, including encapsulation, inheritance and polymorphism. While abstraction is also used in the final creation of this code, I did not really use it here just yet, since I have not written the code for all parts of the program. I used encapsulation by making the objects in the Pet class private in my code, so that they can only be used within the Pet class. This will help keep the data private and prevent other programmers or programs from modifying this part of the code. I used inheritance when designing my pseudocode and flowchart from the UML diagram, where the Pet class will be the parent class and the Cat and Dog classes will be the child classes. This way, parts of the code can be reused in these separate classes, such as the Dog class, which will need the information from the daysStay variable from the Pet class to determine if the dog will be eligible for grooming services. Finally, I used polymorphism by creating a parameters method along with a general default method with my code. The parameter method allows the user to call the method with the same name (Pet) but with the parameters necessary to produce a different result. The same can be done using different parameters or even in different classes such as the Dog and Cat class, which will be helpful when writing the code for the second project.