"Variables” Please respond to the following:

* Provide one (1) example of a variable name that is acceptable to the compiler but is not recommended according to variable naming conventions. Explain one (1) reason why the variable name in question is acceptable but not recommended, and provide an alternative name that would both satisfy the compiler and be recommended according to variable naming conventions. Justify your response.

Variables are like containers that hold information which can be referenced and manipulated in a computer program. They are store in the memory of the computer and can be used throughout the program. One of the variable which is acceptable to the compiler but is not recommended according to variable naming conventions is any reserve word like rates or string. There are keywords which have been reserved for the language’s syntax which is not acceptable in any programming language. The alternative name that would both satisfy the compiler and be recommended according to variable naming conventions is to use other words because it is a good thing to do which is following the rules of any programing language. E.g. packing your car on a handicraft spot is a bad idea.

"Sequence and Selection Structures” Please respond to the following:

* Suggest one (1) example of a problematic programming situation or scenario that the use or implementation of a sequence structure could resolve. Justify your response.

A sequence structure is the one which has one or more sub diagrams which execute in sequential order while selection structure is the one that performs different processes based on condition. One of the problem which the use of a sequence structure could resolve is the databases issues. It can simplify the process of finding information about a query in the large databases.

Most of the databases are extensively linked so that complementary information in another database is easily accessible by sequence structure. Therefore, I think this can be done using this process because it is the best way of resolving that issue of getting information without any problem

An if statement is a good way of solving programming problems. It can control the flow of a program, letting it make decisions on what code to execute which is based on the true statement or false statement of a program. It is used by programmers to solve a lot of issues. E.G. The program below will print this statement "Number is negative" if it is less than zero, positive if it is more than zero and zero if it is equal to zero.

IF number<0 THEN

PRINT "Number is negative"

ELSEIF number>0 THEN

PRINT "Number is positive"

ELSE PRINT "Number is zero"

END IF

Pseudocode:

start Declarations

num idNumber

num numDays

num minReqBid string itemDesc num MIN\_BID = 100 housekeeping() detail() finish() stop housekeeping() output “Online Auction program” input idNumber, itemDesc, numDays, minReqBid return detail() if minReqBid > MIN\_BID then

output idNumber, itemDesc, numDays, minReqBid endif return

finish() output “End of program” return

"Definite versus Indefinite Loops” Please respond to the following:

* Describe one (1) scenario not mentioned in the textbook in which it would be advantageous for you to use a definite loop as opposed to an indefinite loop when developing a program. Provide a rationale for your response.

A definite loop is the one in which the number of iterations is known before the start of the execution of the body of the loop, while an indefinite loop is the one in which the number of iterations is not known before we start to execute the body of the loop. The best example is when you want to do something at a specific number of times and the definite loop will achieve those results, A good example is run a program three time, let the compurt and end it. In real life, I can say building an self-driven car which can go around a street three time and after that stop. Unlike the indefinite loop which will continue running until the whole program is crashed.

, but depends on when a certain condition becomes true (and this depends on what happens in the body of the loop)

* *Example:* repeat for 10 times printing out a \*.
*  In **indefinite loops**, the number of iterations is not known before we start to execute the body of the loop, but depends on when a certain condition becomes true (and this depends on what happens in the body of the loop)
* *Example:* while the user does not decide it is time to stop, print out a \* and ask the user whether he wants to stop

"Single versus Parallel Arrays” Please respond to the following:

* Describe one (1) scenario not mentioned in the textbook in which the use of an array would be a plausible solution. Support your response with an example of the described use of the array.

A single array is a data structure consist of a collection of elements while parallel array is a form of data structure that uses multiple arrays to represent a singular array of records

A good example of a solution an array can solve is representing multiply and dividing using rows and columns. Examples can be using rows to represent the number of groups and Columns to represent the number in each group. This can be multiplied to solve different matrix math’s problems.

An

array

is a way to represent multiplication and division using rows and

columns. Rows represent the number of groups. Columns represent the

number in each group or the size of each group

in real life is storing all fields of each record together in memory of a computer each one might declare an array of 100 names, each a string, and 100 ages, each an integer, associating each name with the age that has the same index.

Modularizing Code” Please respond to the following:

* Imagine you are a part of a team that is tasked with writing a mobile application (app) that will allow users to send pictures to their friends. The manager does not want to waste time creating code modules. Describe at least one (1) advantage of modularizing code for this type of task. Justify your response.

Modularizing code is the process of broken down code into various steps which can be managed. The advantage of it is to break down code into smaller piece instead of having to do one large piece of code at a time. Modularizing code on this task will be necessary to create complex software reliably. Unlike building an application which is unstable, Modules will make codes which are easier to read, easier to debug, and easier to maintain because if the is a problem somewhere, it is easy to check. You start checking each modular and debug.

Programming Design” Please respond to the following:

* Select one (1) characteristic of an object relative to object-oriented design, and discuss its importance when writing programs.

I an example of an object is a Dog. It has fur, the color, tail and When it comes to writ a program for the object dog you can use method like has the ability to bark, walk and run. You can use this methods like bark() or sit() or eat() or walk() ﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿﻿to make them do one of them.

Strayer UniversityBennie C. Duncan IIIDr. James ManningLab 5, Week 8CIS 110 SecTon 019InstrucTons:Design a class named Automobile that holds the vehicle idenTfcaTon number,make, model, and color oF an automobile. Include methods to set the values Foreach data feld, and include a method that displays all the values For each feld.Create the class diagram and write the pseudocode that defnes the class.Diagram:Automobile-vin : string-make: string-model: string-color: stringsetvin(id : num) :numsetmake(vendor : string) : stringsetmodel(kind : string) : stringsetcolor(vehcolor : string) : stringPrintAutomobile() : voi

Lab 5

Design a class named Automobile that holds the vehicle identification number, make, model, and color of an automobile. Include methods to set the values for each data field, and include a method that displays all the values for each field. Create the class diagram and write the pseudocode that defines the class.

Automobile

vehicleIdnum

string-vehicleMake

string-vehicleModel

string-vehicleColor

string

setVehicleIdnum(Vin : string)

void setVehicleMake(make : string):

void setVehicleModel(model string)

void setVehicleColor(color: string)

void getVehicleIdnum()

string getVehicleMake()

string getVehicleModel()

string getVehicleColor() :

Multithreading"  Please respond to the following:

* Describe at least one (1) possible effect that multithreading could have on event-driven programming when you are either developing or using a computer program. Support your response with at least (1) example of the effect of multithreading.

Multithreading is the ability of a program to manage its use by more than one user at a time. It is a programming and execution model that can let multiple threads to exist within the context of a single process. It is the most powerful technique available to increase responsiveness to the user and process the data necessary to get the job done at almost the same time. If you are using a machine which has a single processor, it can make the job easy by switching to another request on an event of waiting for some user input. To the user, this cannot be seen because it is done so fast. This is how powerful it is and how fast it can process data without delaying.

"UML"  Please respond to the following:

* Imagine that you are on a team that that has been tasked with creating an online course delivery system. One of your coworkers wants to model the entire course in UML. Another coworker disagrees with the use of UML and would rather use pseudocode exclusively. Analyze both strategies and suggest at least two (2) major benefits of using UML as well as two (2) major benefits of using pseudocode. Recommend the approach you would suggest in the given scenario and provide a rationale for your response.

Pseudocode is a detailed step in the process of developing a program. It is a much more efficient development process and it greatly streamlines the product development phase because it eliminates many of the distractions which could easily derail the early part of the process.  UML on the other hand is a general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system. It makes everything artifacts scalable, secure and robust in execution.

For me I prefer Pseudocode because it is plain text and therefore easy to understand by anyone which make the job easy even for the non-tech people.

Sorting Methods and Classes"  Please respond to the following:

* Suppose you were creating a method that sorts a list of numbers. Select two (2) features of the Java programming language that you would use in order to accomplish this task at hand. Provide a rationale for your selection.
* Two of the java sorting methods are quicksort and selection sort. Quicksort is a fast sorting algorithm which is used to sort number using the divide and conquer algorithm. It divides a large list into two smaller sub-lists, While, selection sort is a combination of searching and sorting. It is done by moving the smallest element first on its position on every pass in an array.
* Suppose you are making a class using Java language to represent a car. Provide one (1) example of an attribute and one (1) example of a method that would be a part of this class. Justify your response.

An example of a class of car is a Car class with an attribute of color which is the characteristic of the car, and a method of move() which will make the car to move.

An if statement is a good way of solving programming problems. It can control the flow of a program, letting it make decisions on what code to execute which is based on the true statement or false statement of a program. It is used by programmers to solve a lot of issues. E.G. The program below will print this statement "Number is negative" if it is less than zero, positive if it is more than zero and zero if it is equal to zero.

IF number<0 THEN

PRINT "Number is negative"

ELSEIF number>0 THEN

PRINT "Number is positive"

ELSE PRINT "Number is zero"

END IF

The switch statement can be used if you want a user to input a grade and have it assigned a letter grade. It can be done as follows.

public class Grade {

public double getGrade(int input)

{

double inputGrade;

switch(input)

{

case 1: inputGrade >= 90;

break;

case 2: inputGrade >= 80;

break;

case 3: inputGrade >= 70;

break;

default:

public class Grade {

public double getGrade(int input)

{

double inputGrade;

switch(input)

{

case 1: inputGrade >= 90;

break;

case 2: inputGrade >= 80;

break;

case 3: inputGrade >= 70;

break;

default:

grade = 60;

}

return grade;

}

}