A worksheet of self discovery for students to pursue....

Stages of the problem-solving methodology(PSM)

What are the stages and give a brief description of each together with a typical example?

Investigate some of the different models that show the stages of the PSM

• Characteristics of data types: (hint..dim is short for dimension in VBasic)

* Integer
  + What is an ‘integer’ data type?
  + How is this data type defined in the declaration statements in VB.NET?
  + Give an example of a variable or constant typically defined as an ‘integer’
  + Why would you declare a var or const. as this type?
  + How big can an integer be in VB.NET?
  + Give an example of a piece of code using this data type
* floating point number
  + What is a ‘floating point’ data type?
  + How is this data type “declared” in VB.NET?
  + Give an example of a variable or constant typically defined as an ‘floating point’
  + Why would you declare a var or const. as this type?
  + How big can a floating point data type be in VB.NET?
  + Give an example of a piece of code using this data type
* Boolean
  + What is a ‘Boolean’ data type?
  + How is this data type “declared” in VB.NET?
  + Give an example of a variable or constant typically defined as a Boolean
  + Why would you declare a var or const. as this type?
  + What type of ‘output’ is typically expected from a Boolean statement (or question..hint)? Give an example.
  + Does VB.NET treat Boolean declared variables or constants in any special way? Yes/No ..How?
  + Give an example of a piece of code using this data type
* character
  + What is the ‘character’ data type and what does one look like?
  + How is this data type “declared” in VB.NET?
  + Give an example of a variable or constant typically defined as a ‘character’ data type
  + Why would you declare a var or const. as this type?
  + How big can a ‘character’ data type be in VB.NET?
  + Give an example of a piece of code using this data type
* String
  + What is the ‘string’ data type and what does one look like?
  + How is this data type “declared” in VB.NET?
  + Give an example of a variable or constant typically defined as the “string” data type
  + Why would you declare a var or const. as this type?
  + How big can a ‘string’ data type be in VB.NET?
  + Give an example of a line of code in VB.NET using this data type

• types of data structures, including one-dimensional arrays, records and files(chpt 10 of VB pdf book)

• methods of expressing software designs using data dictionaries and data structure diagrams, object descriptions and pseudocode

• formatting and structural characteristics of efficient and effective input and output(chpt 9 of VB pdf book

• needs of users and how these influence the design of solutions

• criteria for evaluating the efficiency and effectiveness of solutions

• a programming language as a method for developing solutions that meet specific needs

• processing features of programming languages, including instructions, procedures, methods, functions and control structures

• purposes and characteristics of internal documentation

• techniques for checking that coded solutions meet design specifications, including construction of test data.