

<b>Date Issued:</b>	21 Mar 2017 (Tue)		
<b>Hand in Date:</b>	02 May 2017 (Tue)	<b>Assessment Date:</b>	16 May 2017 (Tue)

Scenario	
The new software company that are opening in Bexhill would also like to test your practical skills in programming and have decided to ask you to create a program that they can evaluate. You can program in any language if it allows you to show your programming skills.	
<b>Number of individual tasks in this assignment:</b>	3

<b>Task 1:</b>	<p>You have been asked to design and produce a program that shows off your programming skills. A local pet insurance company has asked to have a program that calculates the cost of pet insurance based on different variables.</p> <p>You should create a design for the program including JSP, pseudocode and data dictionary</p> <p>Justify any data types and structures you are planning to use</p> <p>Create a full pseudocode version of your program</p>
<b>Evidence you must produce for this task:</b>	Program design and working program
Criteria covered by this task	
Criterion	Criterion Descriptor
P6	use appropriate tools to design a solution to a defined requirement
M2	justify the choice of data types and software structures used in a design solution
D2	develop algorithms to represent a design solution

<b>Task 2:</b>	Justify your choice of data types and software structures used in your program
<b>Evidence you must produce for this task:</b>	Report on the features and data types used in your program
Criteria covered by this task	
Criterion	Criterion Descriptor
M2	justify the choice of data types and software structures used in a design solution

<b>Task 3:</b>	As part of your design and implementation you should develop pseudocode and code for your program that show a range of features
<b>Evidence you must produce for this task:</b>	Completed design and code
Criteria covered by this task	
Criterion	Criterion Descriptor
D2	develop algorithms to represent a design solution

## Animal Insurance program

A local insurance company is moving into pet insurance and would like a program that does the following

The program should prompt the user for the appropriate information:

1. The owner's initial, surname, the pets name, gender & age should be requested.
2. A code must be used to determine the kind of animal (i.e. D represents a dog, C represents a cat, B represents a bird, R represents a reptile, and anything else represents some other kind of animal).
  - A dog that has been neutered costs £50.
  - A dog that has not been neutered costs £80.
  - A cat that has been neutered costs £40.
  - A cat that has not been neutered costs £60.
  - A bird or reptile costs £10
  - Any other animal generates an error message.
3. Once the type of animal has been determined, other factors are requested that may affect the premium's calculation:
  - a. Animals aged over 5 incur a 2% increase in price for each year they are over 5
  - b. Male animals incur a 5% increase if they are less than 2 years old.
  - c. If the animal has had an accident in the past year an extra 5% increase should be added.
4. After displaying the insurance fee, the program should ask the user if (s)he wants to insure another animal and should allow them to add the details for the next animal (obviously, they shouldn't have to enter their own details again).
5. After entering details for all their animals, it should print out a total cost for each animal with a breakdown of any discounts or price increases and a total for all their animals.
6. If the user enters a question mark (?) for any answer your program should give some on screen help to tell them more about it.

Decide where and if other error messages should be used in order that the data displayed and stored is in the most appropriate format.

Use a range of programming techniques to show what you have learned e.g. loops, ifs, arrays.

Use functions/methods to divide your code up and make it easier to test

All code should be commented and you should show that you have made your program user friendly with appropriate messages.