004 An algorithm a day…

Algorithm Question

Source: OCR GCSE Computing Exam June 2011

A dog that is 5 years old is equivalent to a 42 year old human. You need to write a program that converts the age of a dog to the equivalent age of a human.

Write an algorithm in pseudocode which:

- Asks for the age of the dog in years
- If the age is 2 or less, the human equivalent is 12 times the age
- If the age is more than 2, the human equivalent is 24 for the first 2 years, plus 6 for every additional year.

[5 marks]

Algorithm Example Answer

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*****There are always different ways to solve a problem. This algorithm is just an example. What is important is that the logic is correct!*****

LOGIC:

- **Allows an input for the dog's age**
- **Multiplies age by 12 if age is less than or equal to 2**
- **If age is greater than 2:**
  - **Works out how many years over 2**
  - **Multiplies the number by 6**
  - **Adds 24 (for the first 2 years)**

EXAMPLE ALGORITHM:

```
INPUT dogs_age
IF dogs_age <= 2
    human_dog_years = dogs_age * 12
ELSE
    extra_years = dogs_age - 2
    human_dog_years = 24 + extra_years
```