Potential Solution

Marking for each tasks: Total:100
- can the algorithm determines a finite sequence of operations to be performed,
halts, and produces some output?   10
- are all operation basic, unambiguous and understandable by the system (human)? 10
- can the algorithm execute and achieve the desired outcome?   20
- is the style clear (or properly commented)   10

Task 1:
There are many possible reasonable answers to this question:
(1) Make a note of a counter, which is initially at 0.
(2) Examine each page of the book in turn. For each page:
       • Examine each line of text in turn. For each line:
           − Scan through the individual words on the line, one at a time.
        − If the word is the same as the key increase the counter.
(3) When the last page is processed the counter contains the number of occurrences of
key in the book.

Here the basic actions expected are:
• compare two words
• increase a counter
• go from one page to another
• scan across a line of text, identifying individual words

Task 2: Cleaning Laundry.
Solution:
−   1. **Sort** laundry **by** color
−   2. **For each** color
       2.1 **Place** laundry **in** washing machine
       2.2 **Add** detergent
       2.3 **If** color is white
          2.3.1 **add** bleach
       2.4 **Activate** washing machine
       2.5 **Wait until rinse cycle**
       2.6 **Add** fabric softener
       2.7 **Wait until cycle finished**
       2.8 **Place** laundry in dryer
       2.9 **Activate** dryer
       2.10 **Wait until finished**
       2.11 **Fold**
−   3. Done

Note: These are simple examples to illustrate the designs of (computational) al-
gorithm. Courseworks and Examination will be a lot harder.
Note: These illustrate that algorithms embed in our daily life. We all can design al-
gorithms.