Unit 1

Apply what you know

1. Study the programs in the *Learn something new* section until you can write them
   yourself from scratch without relying on this document or any other source of
   information. Here are the programs:

   1.1. Write a program that produces the following output:

   ```
   Hello Fred
   Hello Ted
   Hello Ed
   ```

   1.2. Write a program that produces the following output:

   ```
   ham on rye
   ham on whole wheat
   ham on a roll
   pastrami on rye
   pastrami on whole wheat
   pastrami on a roll
   roast beef on rye
   roast beef on whole wheat
   roast beef on a roll
   chicken on rye
   chicken on whole wheat
   chicken on a roll
   ```

   1.3. Write a program that checks the word 'pineapple' and tells us what vowels it
        contains.

2. Write a program that prints the letters in the alphabet, one per line.

3. The word 'substantiate' contains the word 'ant'. Write a program that reports which
   of the following words is contained in 'substantiate': 'ate', 'state', 'a', 'substantiate',
   'it', 'tan'. The output should look like this:

   ```
   ate is a substring of substantiate
   a is a substring of substantiate
   substantiate is a substring of substantiate
   tan is a substring of substantiate
   ```

4. Write a program that prints the name Fred 100 times, one time per line. Your program should be reasonably short and should not include a list containing more than ten items or a string containing more than ten characters.

5. Write a program that counts down from 10 to 1. The output should look like this:

```
10
9
8
7
6
5
4
3
2
1
```

6. Write a program that tells us which vowels are used in each of the following words: 'apple', 'banana', 'peach', 'grapefruit'. The output should look like this:

```
Vowels in apple
a
e
Vowels in banana
a
Vowels in peach
a
e
Vowels in grapefruit
a
e
i
u
```