
Classification of characters (2)**P58653_en**

Write a program that reads a character and tells if it is a letter, if it is a vowel, if it is a consonant, if it is an uppercase letter, if it is a lowercase letter and if it is a digit.

For your comodity when solving this exercise, use the procedure

```
void print_line (char c, string s, bool b) {  
    cout << s << "(" << c << ")" = "  
    if (b) cout << "true" << endl;  
    else cout << "false" << endl;  
}
```

that prints in a line if the character *c* is an *s* or not, depending on the boolean *b*. For instance, the call `print_line ('J', "letter", true);` prints the first line of the first sample output.

Input

Input consists of a printable character, like a letter, or a digit, or a punctuation mark.

Output

Tell if the given character is a letter, a vowel, a consonant, an uppercase letter, a lowercase letter and a digit, following the format of the examples.

Sample input 1

J

Sample output 1

```
letter('J') = true  
vowel('J') = false  
consonant('J') = true  
uppercase('J') = true  
lowercase('J') = false  
digit('J') = false
```

Sample input 2

6

Sample output 2

```
letter('6') = false  
vowel('6') = false  
consonant('6') = false  
uppercase('6') = false  
lowercase('6') = false  
digit('6') = true
```

Sample input 3

.

Sample output 3

```
letter('.') = false  
vowel('.') = false  
consonant('.') = false  
uppercase('.') = false  
lowercase('.') = false  
digit('.') = false
```

Problem information

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