**Introduction to Robotics Part 5: Programming – Quiz Key**

1. What is the main reason to write a computer program?

**A**to learn mathematics

**B**to understand technology

**Cto solve a problem**

**D**to impress your friends

1. What does IDE stand for?

**A**Independent Device Enterprise

**BIntegrated Development Environment**

**C**Iterating Decision Enclosure

**D**Instant Decision Environment

1. What does the term **int** in the following instruction mean?

***int bumper***

**A bumper is a 16-bit variable**

**B** bumper has an intermediate value

**C** bumper has a value between 0 and 255

**D** read the bumper switch to input a value

1. How do you know some typed text in C++ is actually a statement?

**A** it is terminated with a comma

**B it is terminated with a semicolon**

**C** it is enclosed by curly brackets

**D** it has a double slash in front of it

1. How do you know some typed text in C++ is a function?

**A** it is terminated with a comma

**B** it is terminated with a semicolon

**C it is enclosed by curly brackets**

**D** it has a double slash in front of it

1. What type of loop is a FOR loop?

**A a counting loop**

**B** a decision loop

**C** an infinite loop

**D** a conditional loop

1. What type of loop is a WHILE loop?

**A** a counting loop

**B** a decision **loop**

**C an infinite loop**

**D** a conditional loop

1. What type of loop is an IF loop?

**A** a counting loop

**B** a decision loop

**C** an infinite loop

**D a conditional loop**

1. What do you use in C++ to create a comment?

**A** it is terminated with a comma

**B** it is terminated with a semicolon

**C** it is enclosed by curly brackets

**D it has a double slash in front of it**

1. What is a microcontroller?

**A** a multipurpose programmable device

**B a computer on a chip**

**C** smallest standalone part of a computer program containing executable code

**D** a sequence of instructions that continually repeat

1. What two things does an IDE do?

* A computer program used to write a computer program
* The IDE allows students to write a computer program that can be downloaded from any PC
* Allows users to write code in a language that is easier to use than the machine level code
* Converts the higher-level language to the machine code that is specific to a family of microprocessors

1. What two things happen when you define a variable?
   * Gives the variable a name
   * Assigns the variable a memory location
2. Describe the following computer program in as much detail as possible:

**void setup() {**

// **put your setup code here, to run once;**

**}**

**void loop() {**

// **put your main code here, to run repeatedly;**

**}**

|  |  |
| --- | --- |
| **void** | **No value is returned** |
| **setup()** | **Program section names** |
| **()** | **No value is given** |
| **{** | **Functions** |
| **{}** | **Functions** |
| **;** | **Statements** |
| **//** | **Comments** |
|  |  |

**Matching:**

|  |  |
| --- | --- |
| 1. Machine language   **B** | 1. words and names defined as part of a computer language to perform specific tasks |
| 1. Statement   **E** | 1. a programming language understood by computers that consists entirely of numbers |
| 1. Computer program   **F** | 1. the set of rules that define how symbols and words are used in a programming language |
| 1. Syntax   **C** | 1. has only two values, zero and one |
| 1. Keywords   **A** | 1. smallest standalone part of a computer program containing executable code |
| 1. Function   **G** | 1. a sequence of instructions that are executed by a CPU |
| 1. Binary   **D** | 1. section of a computer program that performs a specific task |