Bahan Ajar

Chapter 4

Materi Pembelajaran

Matakuliah :

PEMROGRAMAN TERSTRUKTUR

Kode Matakuliah : SKO 21411

Prodi : SISTEM KOMPUTER

Dosen Pengampu Matakuliah:

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The int Data Type

In Arduino C, an int data type is a 16-bit value, as shown in Table. In some other languages (e.g., Java, C#, C++), an int is usually a 32-bit (4 byte) entity. If you have programmed before in some of these other languages, then you need to be aware that an int in Arduino C has a smaller numeric range than it carries in other programming languages.

Tipe Data	Nilai	Keterangan
Integer	16 bit	-32768 s.d 32767

The word Data Type

The word data type has the same storage requirements and range of values as an unsigned int.

Tipe Data	Nilai	Keterangan
Word	2 bit	0 s.d 65535

The long Data type

Because the long data type uses 32 bits (4 bytes), it has an approximate range of values of between plus or minus 2 billion. Like the other data types discussed so far, the long data type is also an integer data type and, as such, cannot be used to represent fractional values.

Tipe Data	Nilai	Keterangan
Long int	4 byte	-2147483648 s.d 2147483647

The float and double Data Types

Arduino C does allow floating point numbers. That is, you can have data values in your program that use fractional values.

Tipe Data	Nilai	Keterangan
Float	32 bit	3.4E-38 s.d 3.4E+38
Double	64 bit	1.7E-308 s.d 1.7E+308

String Data Type

A string is a sequence of ASCII characters treated as a single entity. In other words, it is a string of characters. The string data type may be implemented several different ways.

```
char myString[15];
```

The void Data Type

The void data type really isn't a data type at all. One use for the void keyword is when it is used with functions to show that a function does not return a value. Functions are defined as:

```
void setup() {
        // the setup code body
}
void loop() {
        // the loop code body
}
```

The array Data Type

Virtually all of the basic data types support arrays of those types. We have already seen examples of character arrays. The following statements show some other array definitions. Functions are defined as:

```
int myData[15];
long yourWorkDay[7];
float temp[200];
```

Tugas Mandiri (teori):

Tuliskan dan jelaskan contoh penggunaan
1. Apa perbedaan antara STRING dengan TIPE DATA STRING?
2.Apa yang dimaksud dengan KONSTANTA dan VARIABEL?

Tugas Mandiri (prakt):

Lakukan memprogram Simulasi Arduino dengan Output 4 LED Menggunakan Proteus dengan menambahkan library arduino ke dalam proteus 7

end