

Computer Programming

This is an introductory course to computer programming for engineers. Knowledge of C programming is commonly accepted as of primary importance for an engineer. This knowledge can easily be translated to any other programming language.

[Practical Exercise](#)

Syllabus

1. Introduction to Computer Systems
 1. Hardware (CPU, input, output)
 2. Software (Kernel, OS, userspace)
 3. Numbers & Logic
2. Introduction to Computer Programming
 1. Algorithms: instruction sequencing
 2. Flow-charts: visual representation
 3. Interpreters $\Rightarrow$ scripts
 4. Compiler and Linkers $\Rightarrow$ binary executables
3. Introduction to C language
 1. Basic code structure (syntax)
 1. Function and code-block
 2. Creating first executable binary
 3. Syntax (language) and semantic (decision logic) errors
 4. Variables and Operators
4. Flow control: Branches (selection)
5. Flow control: Loops (repetition)
6. Arrays
7. String (character array)
8. Pointers
9. Functions
 1. scopes and variable life-time
10. File Access

Introduction to C Programming

Variable and Operators

[intsize.c](#)

```
#include<stdio.h>
int main(void)
{
```

```
printf("Size of unsigned int: %d\n",sizeof(unsigned int));
printf("Size of unsigned long long: %d\n",sizeof(unsigned long
long));
printf("Size of unsigned long: %d\n",sizeof(unsigned long));
printf("Size of unsigned short: %d\n",sizeof(unsigned short));
printf("Size of unsigned char: %d\n",sizeof(unsigned char));
return 0;
}
```

varsize.c

```
#include<stdio.h>
int main(void)
{
printf("Size of int: %d\n",sizeof(int));
printf("Size of float: %d\n",sizeof(float));
printf("Size of double: %d\n",sizeof(double));
printf("Size of long double: %d\n",sizeof(long double));
printf("Size of char: %d\n",sizeof(char));
return 0;
}
```

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