

Tassadaq Hussain

Microsoft Barcelona Supercomputing Center
Universitat Politècnica de Catalunya
Barcelona, Spain



Introduction to Programming



RIPHAH
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UNIVERSITY

```
graph TD; Memory[Memory] --- Processor[Processor]; Inputs[Inputs] --> Processor; Processor --> Outputs[Outputs]
```

Memory

Processor

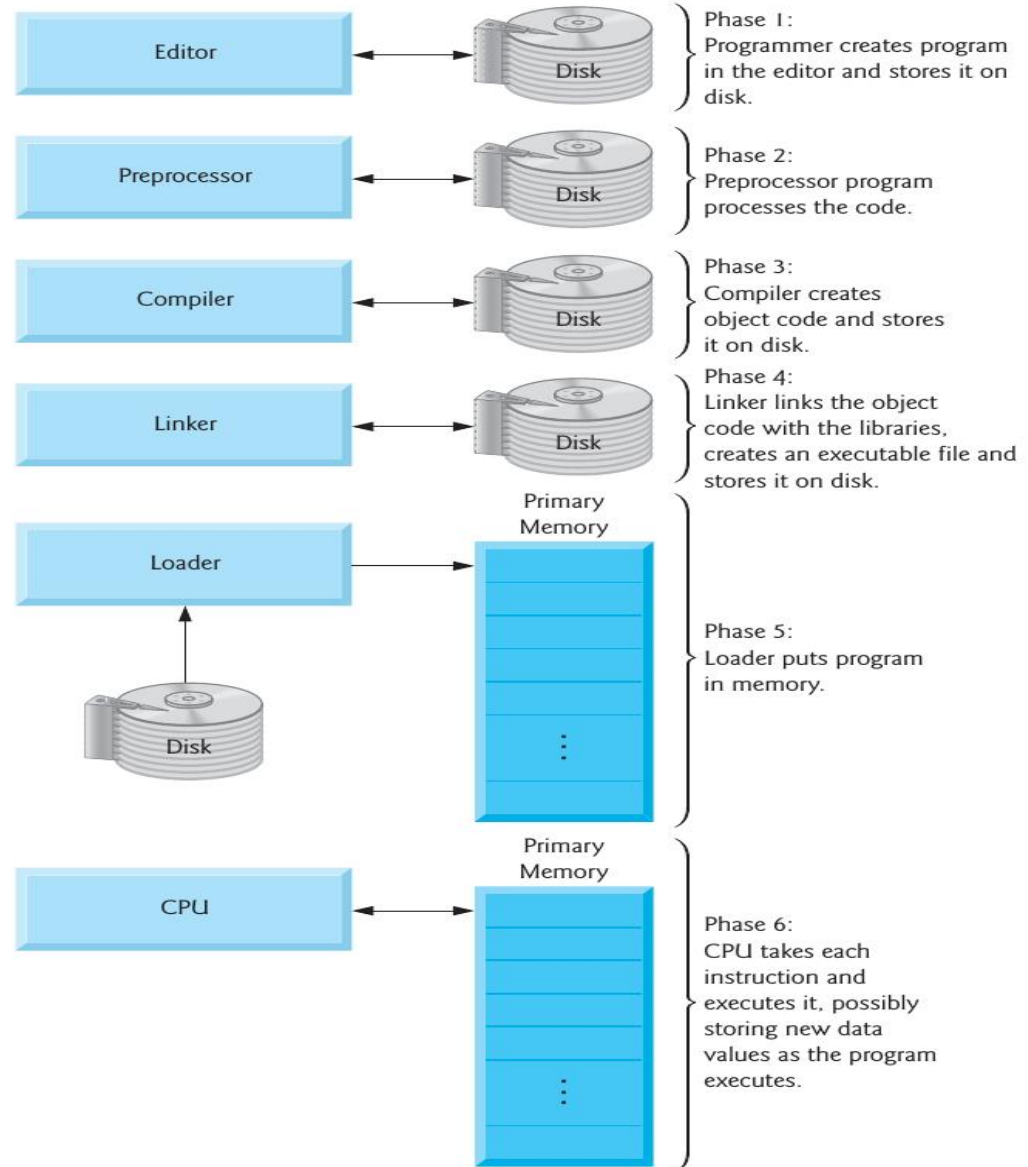
Inputs

Outputs

Introduction to Programming

```
#include "stdio.h"

int main()
{
printf("welcome to
RIU");
return 0;
}
```



Compiler

The job of a compiler is mainly to translate programs written in some human readable language into an equivalent set of opcodes for a particular processor.

Linker

Linker takes one or more object files generated by a compiler and combines them into a single executable file, library file, or another object file

Loader

Loader is the part system that is responsible for loading programs and libraries.

Debugger

A debugger or debugging tool is a computer program that is used to test and debug other programs.

Front-End I/O

Data Types

Conditions

Operations

Size and Range of Data Types

Data Type	Range	Bytes	Format
signed char	-128 to + 127	1	%c
unsigned char	0 to 255	1	%c
short signed int	-32768 to +32767	2	%d
short unsigned int	0 to 65535	2	%u
signed int	-32768 to +32767	2	%d
unsigned int	0 to 65535	2	%u
long signed int	-2147483648 to +2147483647	4	%ld
long unsigned int	0 to 4294967295	4	%lu
float	-3.4e38 to +3.4e38	4	%f
double	-1.7e308 to +1.7e308	8	%lf
long double	-1.7e4932 to +1.7e4932	10	%Lf

Note: The sizes and ranges of int, short and long are compiler dependent. Sizes in this figure are for 16-bit compiler.

Data types

```
int a;
```

```
char b;
```

```
float c;
```

```
string z;
```