Coimbatore-35
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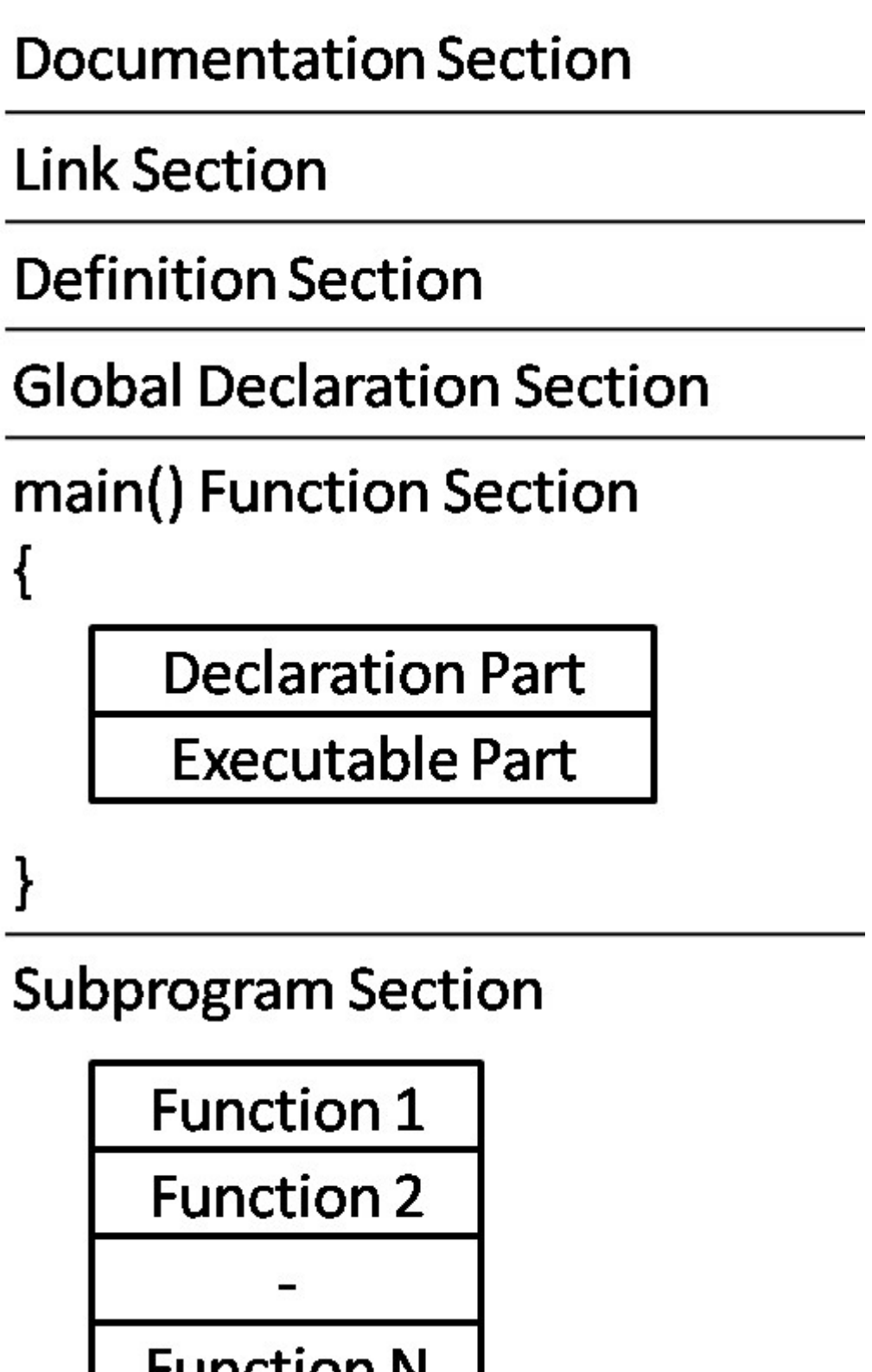
RTMENT OF INFORMATION TECHNOLOGY

ROGRAMMING FOR PROBLEM SOLVING

I YEAR - I SEM

UNIT 2 – C Programming Basics

PIC 2 – Structure & Execution of a 'C' program


Documentation Section
Link Section
Definition Section
Global Declaration Section
main() Function Section
{
Declaration Part
Executable Part
}
Subprogram Section
Function 1
Function 2
-
Function N

n can be viewed as a group of building blocks called functions.
ion is a subroutine that may include one or more statements desig
task.

tation Section
cumentation section consists of a set **of comment lines** giving
n, the author and other details, which the programmer would like t

on
k section provides instructions to the **compiler to link functions**

Section
inition section defines all symbolic constants.

claration Section

re some variables that are used in **more than one function**.

ariables are called global variables and are declared in the g

that is **outside of all the functions**.

tion also declares all the user-defined functions

nction Section

program must have one main() function section.

tion contains two parts:

laration part

clares all **the variables** used in the executable part

cutable part.

here should be at least **one statement** in the executable part.

wo parts must appear between the **opening and the closing braces**

gram execution begins at the opening brace and ends at the closing

g brace of the main function section is the logical end of the progr
ents in the declaration and executable parts end with a semicolon(

m Section

program section contains all the user-defined functions that **are ca**
n.

fined functions are generally placed **immediately after the**
n they may appear in any order.

ns, except the main function section may be absent when they are

ASIC STRUCTURE OF A 'C' PROGRAM:

Documentation section
[Used for Comments]

Link section

Definition section

Global declaration section
[Variable used in more than one function]

main()
{
Declaration part
Executable part
}

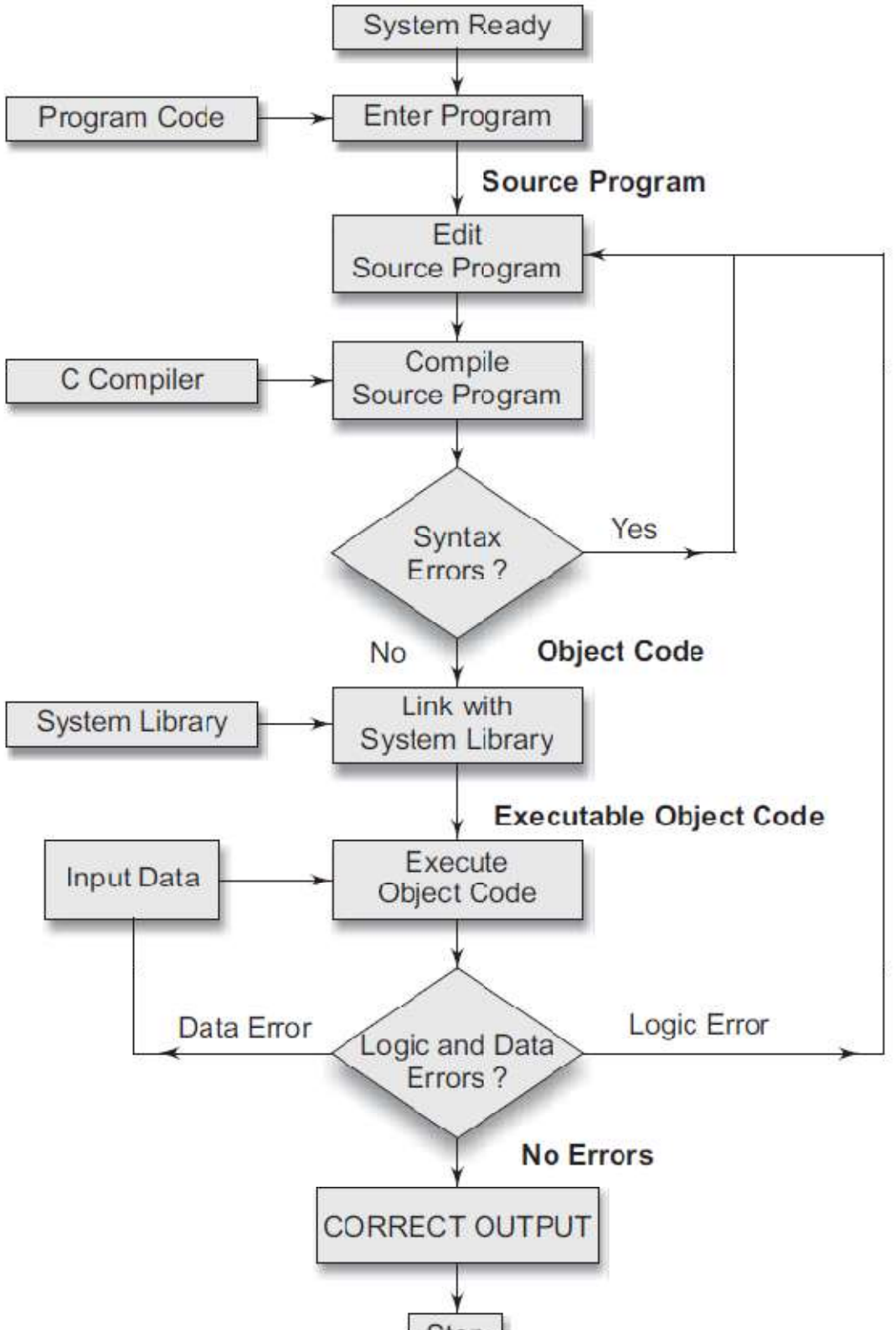
Subprogram section
[User-defined Function]
Function1
Function 2
:
:

Example:

```
//Sample Prog

#include<stdio.h>
#include<conio.h>

void fun();

int a=10;

void main()
{
clrscr();
printf("a value inside main(): %d
fun();
}

void fun()
{
printf("\na value inside fun(): %d
}
```

a program written in
s a series of steps.

the program;
g the program;
the program with
at are needed from the
d
g the program.



he Program

am must be **entered into a file**.

ame can consist of letters, digits and special characters, followed b

of valid file names are:

n.c

created with the help of a text editor (ex. notepad) and some **stan**

am that is entered into the file is known as the source program

the original form of the program

g

ume that the source program has been created in a file named ebg1
rogram is ready for compilation.
e program instructions are **now translated into a form that is suit**
by the computer.
ation is done after examining each instruction for its correctness.
ng is alright, the compilation proceeds silently and the translated p
file with the name **ebg1.o.**
am is known as **object code.**

the process of putting together other program files and functions t
gram.
ple, if the program is using exp() function, then the object code of t
brought from the **math library** of the system and linked to the ma
g is **automatically done** (if no errors are detected) in most of the S

kes in the **syntax and semantics** of the language are discovered, t
pilation process ends right there.
hould be corrected in the source program with the help of the edito
is done again.
ed and linked program is called the executable object code and is s
y in another file named **a.out.**
ent systems use different compilation commands for linking vario

g the Program

a simple task

ecutable object code into the computer memory and execute the i

ution, the program may **request for some data to be entered** thro

the program does not produce the desired results.

mething is wrong with the program logic or data.

ld be necessary to correct the source program or the data.

ource program is modified, the **entire process** of compiling, linki

should be repeated.

e linker always assigns the same name a.out.

mpile another program, this file will be overwritten by the executa

rogram.