

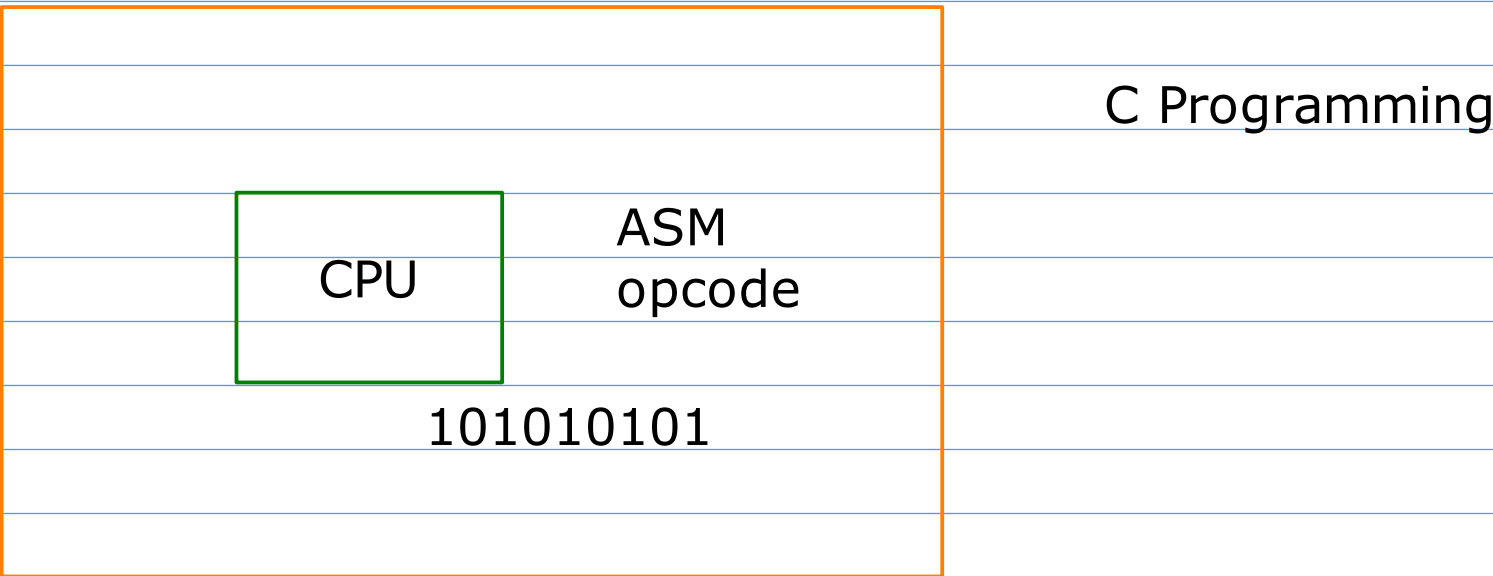
Module -> 1 week / 2 weeks / 3 weeks 100 Marks

Lab Exam -> 40 Marks 16 Marks

Internal Exam -> 20 Marks

Theory Exams -> 40 Marks

CPP



CPP -> OOP

OOP -> Object Oriented Programming

1. Major

- Abstraction
- Encapsulation
- Modularity
- Hirerachy

Abstraction

- Getting to know only the essential things
- Hiding unnecessary details

2. Minor

- Typing/Polymorphism
- Concurrency
- Persistance

Encapsulation

- Binding of data and code together

Modularity

- Dividing the code into smaller modules

Hirerachy

- Reusability
- has-a(association), is-a(inheritance)

```
int main(){
printf("Hello world");
scanf();
return 0;
}
```

```
Date.h, Date.c
struct Date{
int day;
int month;
int year;
}
```

```
struct Employee{
Date doj;
Date dob;
}
```

```
struct Student{
}
```

Human has-a Heart
Human is-a Heart // NOT OK

Employee has-a Person // NOT OK
Employee is-a Person

Minor

- 1. Polymorphism
 - One entity that can take multiple forms
 - types of polymorphism
 - 1. Compile Time Polymorphism (Function Overloading)
 - 2. RunTime Polymorphism (Function Overriding -> Inheritance)
- 2. Concurrency
 - Performing multiple tasks at the same time
 -
- 3. Persistance
 - The way to save the data permanantly

OOSD- Object Oriented Software Development

- 1. OOA - Object Oriented Analysis
- 2. OOD - Object Oriented Design
- 3. OOP - Object Oriented Programming

e-Attendance
Student

Design

Employee
Attendance
Date
Time

```
class Student{  
int rollno;  
}
```

```
class Employee {  
int empid;  
}
```

```
class Person{  
String name;  
Date dob;  
}
```

```
class Attendance{  
Date punchDate;  
Time inPunch;  
Time outPunch;  
  
}
```

OOP

C++ CPP

POP
OOP

VS Code Editer
IDE

Student.cpp
Person.cpp
Date.cpp

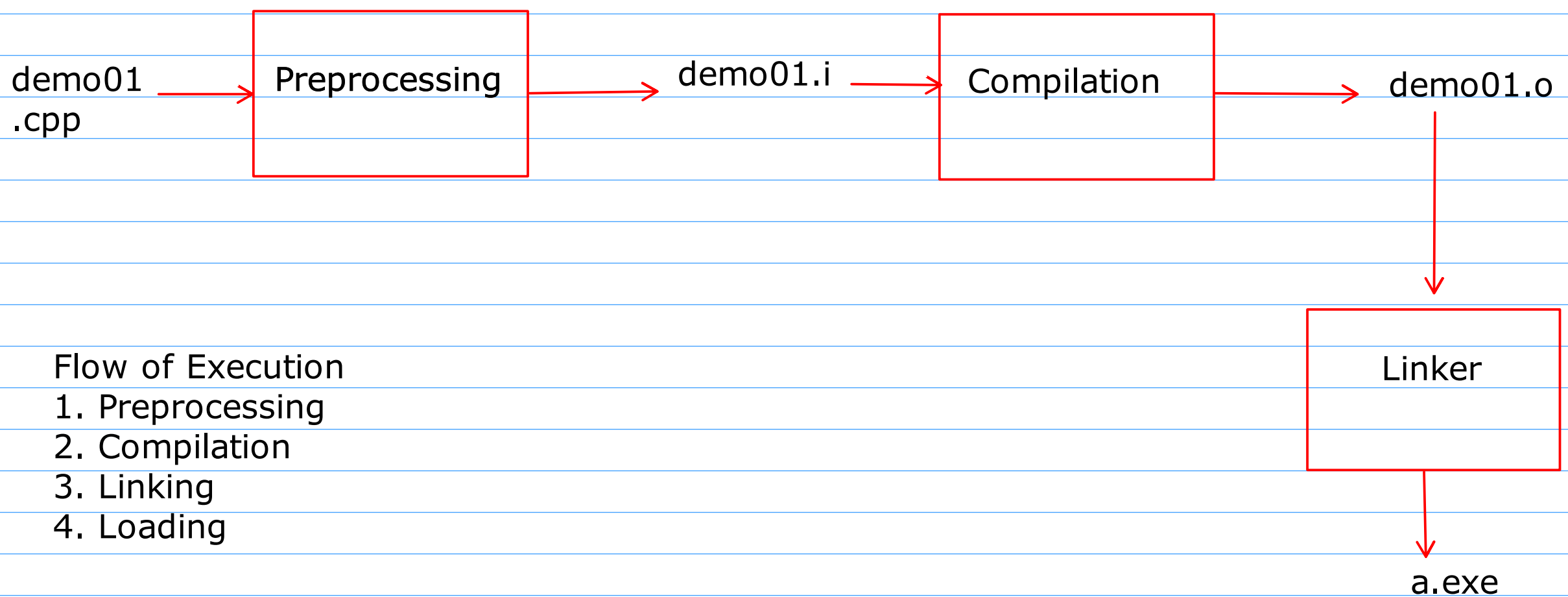
Git

CPP

- Day01
 - demo01.cpp
 - demo02.cpp
 - demo03.cpp
 - demo04.cpp
- Day02
- Day03

CPP_Assignments

- Assignment01
-



Flow of Execution

1. Preprocessing
2. Compilation
3. Linking
4. Loading

DataTypes

- It represents 3 things
 1. Nature - Kind of data that we can store (Alphabet, Number , Word, Sentence, Fractional, true/false)
 2. Memory - The amount of memeory allocated for the data
 3. Operations - Type of operations taht we can carrty on the stored data in that datatype

int,double,char

Fundamental Types

void, int, float , double ,char , bool , wchar_t

wchar_t

Dervied Types

array, struct, class, pointer

ASCII

0	.
1	.
2	.
3	.
4	.
5	.
.	.
.	.
255	.

UTF-16

0	.	.
1	.	.
2	.	.
3	.	.
4	.	.
5	.	.
.	.	.
.	.	.
255	.	.
257	RS	
.	.	
300	<u>as</u>	
.		
.		
.		
.		
.		
65535		

- Inline
- function overloading
- default argument function
- class
- object
- member functions