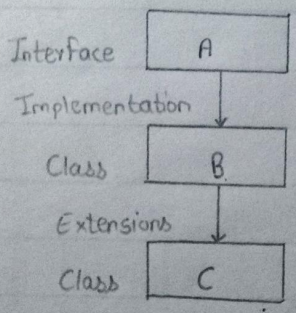
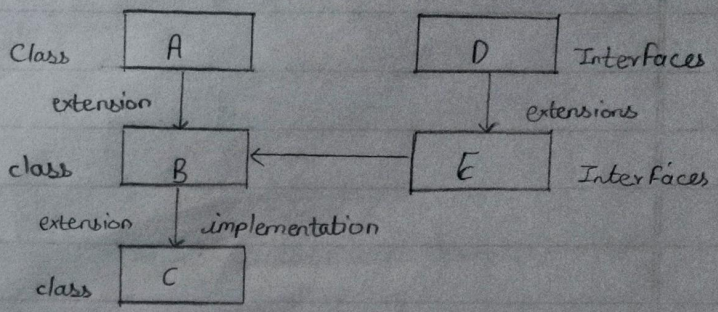
Practical No. 09

Aim: Create, debug and run java programs based on interfaces.

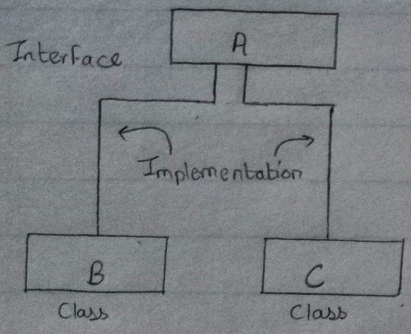
Diagram:



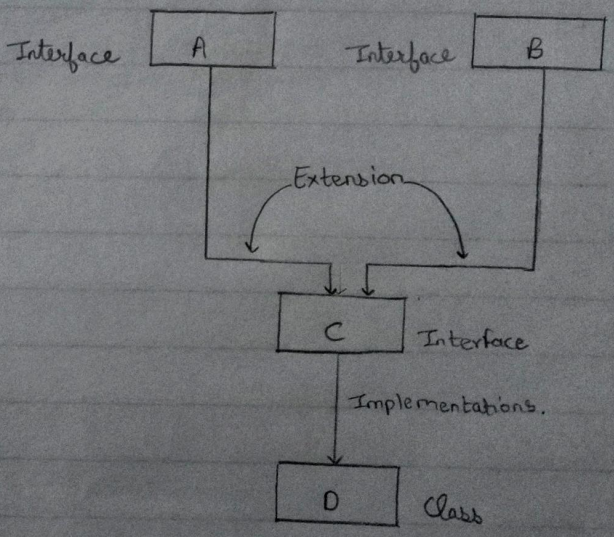
(a)



(b)



(c)



(d)

Practical No. 9

Aim : Create, debug and run java programs based on interfaces.

Theory :

What is an interface?

→ • An interface is almost like a class with a major difference being that interfaces define only abstract methods and final fields.

- Syntax:

```
interface InterfaceName {
    variable declaration
    Method declaration.
}
```

here, 'interface' is the Keyword, and InterfaceName is any valid Java variable (just like class names).

- Variables are declared as follows:

```
static final type VariableName = Value;
```

example:

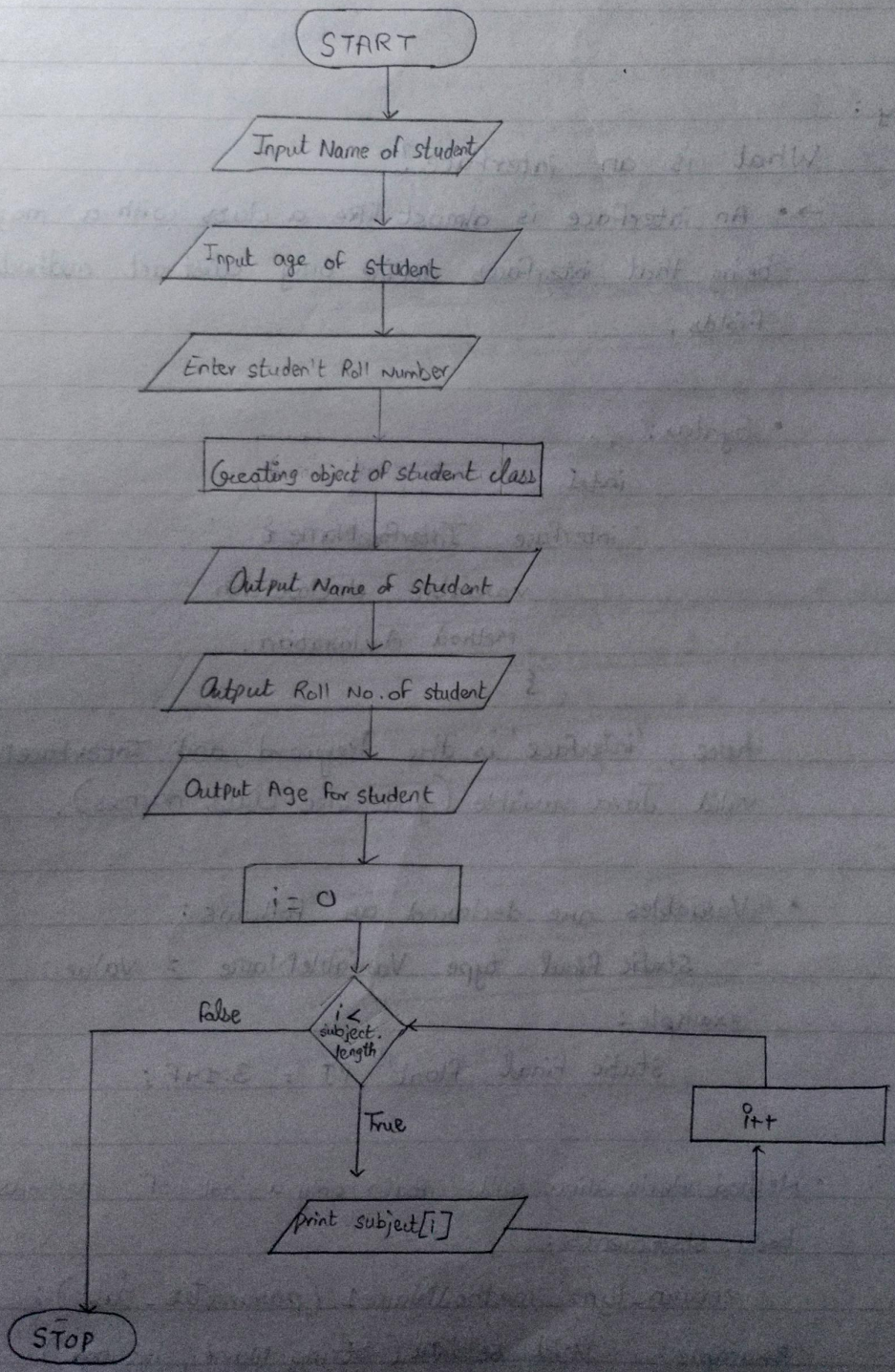
```
Static final float PI = 3.14F;
```

- Method declaration will contain only a list of methods without any body statements:

```
return-type methodName1 (parameter-list);
```

example: `void setData (String Name, int age);`

Flowchart :


START
Input Name of student
Input age of student
Enter student Roll Number
Creating object of student class
Output Name of student
Output Roll No. of student
Output Age for student
i = 0
i < subject.length
False
True
print subject[i]
i++
STOP

Extending Interfaces:

- An interface can be sub-interfaced from other interfaces.
- The new sub interface will inherit all the members of the sub interface in the manner similar to subclasses.
- This is achieved using the keyword 'extends'.
- Syntax:

```
interface name1 extends name2 {
  // body of name 1
}
```

- We can also combine several interfaces together into a single interface. Syntax:

```
interface a {
  // body of a
}

interface b {
  // body of b
}

interface c extends a, b {
  // body of c
}
```

- Interfaces cannot extend classes as it would violate the rule of interfaces having only final variables and abstract methods.

Conclusion :

Hence, by performing this practical, I learnt about the concept of interfaces and their implementation. I also created, developed, debugged and executed java programs on interfaces