



## DEPARTMENT OF INFORMATION TECHNOLOGY

### Flipped Classroom

**Course:** Object-Oriented Programming

**Topic:** Inheritance

**Faculty:** Mrs. M. Kamatchisaranya

**Semester:** III

**Academic Year:** 2022–2023

**Innovation Method:** Flipped Classroom

**Date:** 12.10.2022

**No of Students Participated:** 48

#### Need for Innovation

- Traditional lecture delivery often limits student engagement in abstract OOP topics like Inheritance.
- Students struggle to visualize hierarchical relationships through theory alone.
- To promote deeper conceptual clarity and active learning, a flipped classroom approach was introduced.

#### Description of the Innovation

- Students were provided with pre-class learning materials, including short videos explaining:
  - Types of Inheritance
  - Base and Derived Classes
  - Access Specifiers in Inheritance
  - Practical examples in C++ / Java

#### Class time was utilized for

- Hands-on coding exercises
- Peer discussions and Q&A
- Mini case studies demonstrating inheritance in real applications

## **Objectives**

- To encourage pre-class preparation for better understanding of Inheritance concepts.
- To facilitate active in-class discussion and problem solving.
- To develop students' ability to apply OOP concepts in coding tasks.
- To improve higher-order thinking and promote self-paced learning.

## **Tools / Methods Used**

- LMS (Google Classroom) for:
  - Sharing video links, notes, and pre-class quizzes
  - Collecting student reflections
- YouTube Videos for:
  - Explaining conceptual content in short, engaging modules
- In-class coding practice using CodeBlocks / VS Code
- Case-based discussion method
- Peer instruction through group activities

## **Implementation Steps**

- Uploaded curated video content on Google Classroom covering Inheritance.
- Conducted a short pre-class quiz to assess initial understanding.
- Used classroom time for:
  - Solving inheritance-based coding problems
  - Group activities to identify inheritance types in real-world examples
  - Instructor-guided debugging sessions
- Ended the session with an exit ticket summarizing key takeaways.

## **Evidence of Student Engagement**

- Increased pre-class resource access logs on Google Classroom.
- Active participation during coding tasks and discussions.
- Students asked more conceptual questions compared to lecture-based sessions.
- Improvement observed in in-class quiz scores.



From pre-class preparation to in-class engagement for the flipped classroom on 12.10.2022.

### Outcomes / Impact

- Students demonstrated better understanding of Inheritance, including multi-level and hierarchical inheritance.
- Improved ability to implement real-world OOP scenarios in code.
- Enhanced confidence in explaining concepts using examples.
- Higher engagement and satisfaction reported in informal feedback.

### 8. Mapping to PO/PSO

- PO1: Engineering Knowledge – Applied OOP concepts in coding exercises.
- PO2: Problem Analysis – Solved inheritance-related programming tasks.
- PO9: Individual & Team Work – Group discussions and peer learning.
- PSO1: Ability to design and implement software using OOP principles.

#### List of students Attended – II- Year

S.NO	REGISTER NO	STUDENTS NAME
1.	312821205001	Aravind R
2.	312821205002	Aravindh R
3.	312821205003	Ashika Jubi S

4.	312821205004	Dharshan K
5.	312821205005	Dinakaran Sa
6.	312821205006	Gokulakrishnan M
7.	312821205007	Gowtham G
8.	312821205008	Gowtham M
9.	312821205009	Harini V
10.	312821205010	Jagadeesh D
11.	312821205011	Jerlin Ida J
12.	312821205012	Jeshina K
13.	312821205013	Karthikeyan S
14.	312821205014	Keerthana V
15.	312821205015	Kirubanithi S
16.	312821205016	Lakshmi Priya P
17.	312821205017	Mahima Sree S
18.	312821205018	Mohamed Alifdeen R
19.	312821205019	Mohamed Ruwaid A
20.	312821205020	Monesha G
21.	312821205021	Nandha Kumar A
22.	312821205022	Nanthini Priya R
23.	312821205023	Neha M
24.	312821205024	Nethaji M
25.	312821205025	Nishaanth S
26.	312821205026	Pradeep Kumar Y
27.	312821205027	Prashanth B
<b>28.</b>	312821205028	Praveen M
29.	312821205029	Preethi M
30.	312821205030	Premlatha S
31.	312821205031	Pugazhenthil D
32.	312821205032	Rahul N
33.	312821205033	Ramkumar K S
34.	312821205034	Ramya Devi P
35.	312821205035	Rexlin Felix S
36.	312821205036	Rukmangathan D
37.	312821205037	Santhosh G

38.	312821205038	Saran S K
39.	312821205040	Sasikumar R
40.	312821205041	Silambarasan M
41.	312821205042	Sivaranjini R
42.	312821205043	Siva Saradhe R
43.	312821205046	Surya Prakash S
44.	312821205047	Tarun S
45.	312821205048	Venu Aravind M
46.	312821205302	Kotipatruni Tirumala Rao
47.	312821205303	Vishal B
48.	312821205701	Yokesh B

*P-Q-M*

*Satish B*

Course Handling Faculty HOD

Feedback Link: <https://forms.gle/JdvQARaMwWAM15pB7>