THINK-PAIR-SHARE ACTIVITY REPORT

Topic- Code Optimization

Department of Computer Science and Engineering

THINK-PAIR-SHARE ACTIVITY REPORT

Topic: Code Optimization
Date: *[17/04/2025]*
Venue: Room No. 410
Instructor: Mr. Vipin Rawat
Total Teams: 3
Total Participants: 12

Activity Description:

The Think-Pair-Share strategy was applied to the topic of **Code Optimization** to enhance collaborative learning and critical thinking. The session involved three structured steps:

1. **Think:**
   Each participant spent 5 minutes individually reflecting on techniques, benefits, and challenges related to code optimization.
2. **Pair:**
   Students paired within their teams to discuss their individual thoughts and consolidate their understanding.
3. **Share:**
   Each team nominated a representative to present a brief summary of their key insights, real-world examples, and potential optimization strategies for efficient coding.

Participants List:

1. Abhishek Singh
2. Dipak Kumar
3. Aditya Pratap Singh
4. Anushka Pandit
5. Akansha Mishra
6. Kajal Kumari
7. Deepshika
8. Harsh
9. Anurag Sharma
10. Aryan Raj
11. Azad Kumar
12. Ashish Singh

Team Distribution:

- **Team 1**
    - Abhishek Singh
    - Dipak Kumar
    - Aditya Pratap Singh
    - Anushka Pandit
    - Akansha Mishra
- **Team 2**
    - Kajal Kumari
    - Deepshika
    - Harsh
- **Team 3**
    - Anurag Sharma
    - Aryan Raj
    - Azad Kumar
    - Ashish Singh

Attendance Sheet

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Think Pair Share

Attendance Sheet

Course Name:	Compiler Design		Date:	17/4/25
Branch:	CSE		Year:	3
Section:	A		Instructor Name:	VIPIN RAWAT
Topic Name:	Code optimisation			

Sr. No	Roll No.	Name of Student	Sign
1.	22036301000008	Abhishek Singh	SA
2.	2203630100062	Dipak Kumar	Dipak kum
3.	2203630100015	Aditya Pratap Singh	A
4.	An 2203630100035	Anushka Pandit	Anusha
5.	2203630100016	Akanksha Mishra	Akl
6.	2203630100075	Kajal Kumari	Kajal
7.	2203630100057	Deepsika	Deepsikha
8.	2203630100071	Harsh	Harsh
9.	2203630100033	Anurag Sharma	Anurag
10.	2203630100036	Aryan Raj	Aryan
11.	2203630100051	Azad Kumar	Azad
12.	2203630100037	Ashish Gupta.	Ashish.

Team - 1

- → Abhishek Singh
- → Dipak Kumar
- → Aditya Pratap Singh
- → Akanksha Mishra
- → Anushka Pandit

Problem :- $a = b + c * 60.$

i) Lexical Analysis (Token).

The identifier (id_1) = a

The assignment symbol (=)

The identifier (id_2) = b

The plus sign (+)

The identifier (id_3) = c

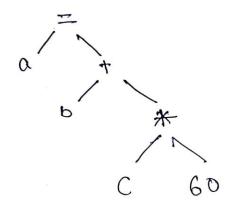The multiplication sign (*)

The constant (60)

→ Deep sikha

→ Harsh

→ Kajal.

Syntax analyser.

a = b + c * 60

```
        =
       / \
      a   +
         / \
        b   *
           / \
          c   60
```

Semantic Analysis.

```
        =
       / \
      a   +
         / \
        b   *
           / \
          c   uint to float
                   \
                    60
```

Team:-3

→ Azad Kumar

→ Aryan Raj

→ Anurag Sharma.

→ Ashish Gupta

- Intermediate Code Generator.

$$t_1 = int \;\; to \;\; float \;\; (60)$$
$$t_2 = c \times t_1$$
$$t_3 = b + t_2$$
$$a = t_3.$$

> Code optimization.

$$t_1 = c * 60$$
$$a = b + t_1$$

> Code Generator.

```
MOV     C, R1
MUL     60, R1.
MOV     b, R2
ADD     R1, R2
MOV     R1, a.
```

Glimpses of Roleplay Activity

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Think Pair Share
Evaluation Sheet

Course Name:	Compiler Design	Date:	13/4/25
Branch:	CSE	Year:	2rd
Section:	A	Instructor Name:	VIPIN RAWAT
Topic Name:	Code optimization		

Sr. No	Roll No.	Pair	Name of Student	Confidence and Accuracy (10)	Relevant Content (5)	Classroom Discussion (5)	Problem-Solving Skills (5)	Total Score	Remarks
1	2203630100000		Abhishek Singh						
2	2203630100062		Dipak Kumar						
3	2203630100015	P₁	Aditya Pratap Singh	10	5	5	5	25	I
4	2203630100016		Akanksha Mishra						
5	2203630100035		Anushka Pandit						
6	2203630100057		Deep Sikha						
7	2203630100035	P₂	Kajal	8	5	4	4	21	II
8	2203630100071		Hdush						
9	2203630100033		Anuraj Sharma						
10	2203630100036	P₃	Aryan Rg	7	4	5	4	20	III
11	2203630100051		Azad Kumar						
12.	2203630100039		Ashish Gupta.						

HOD Sign with Date
10.4.25

Instructor Sign with Date
13/4/25

Outcome:

The activity successfully encouraged interactive learning, peer discussion, and practical understanding of code optimization techniques such as:

- Loop unrolling
- Dead code elimination
- Inlining functions
- Memory management strategies
- Use of efficient algorithms and data structures

Participants showcased improved analytical thinking and collaborative problem-solving abilities.