

EXPERIMENT NO.6

Aim : Write a program to implement code optimization

Code:

```
def main():
    n = int(input("Enter number of expressions : "))
    mp = {}
    opt = []
    count = 1 # Variable to generate unique temporary variables t1, t2, t3, ...
    for i in range(n):
        exp = input(f"Enter expression {i + 1} : ")
        lhs, rhs = exp.split('=')
        rhs_stripped = rhs.strip()
        if mp.get(rhs_stripped, 0) == 0:
            opt.append(f"t{count}={rhs_stripped}")
            mp[rhs_stripped] = count
            count += 1
    print("\nOptimized code :: ")
    for it in opt:
        print(it)
if __name__ == "__main__":
    main()
```

Output:

Output

Clear

Enter number of expressions: 7

Enter expression 1: t1 = c

Enter expression 2: t2 = a-b

Enter expression 3: t3 = a-b

Enter expression 4: t4 = a+b

Enter expression 5: t5 = d+5

Enter expression 6: t6 = a+b

Enter expression 7: t7 = c

Optimized code:

t1 = c

t2 = a-b

t3 = a+b

t4 = d+5

=== Code Execution Successful ===