

## EXPERIMENT 13

### AIM

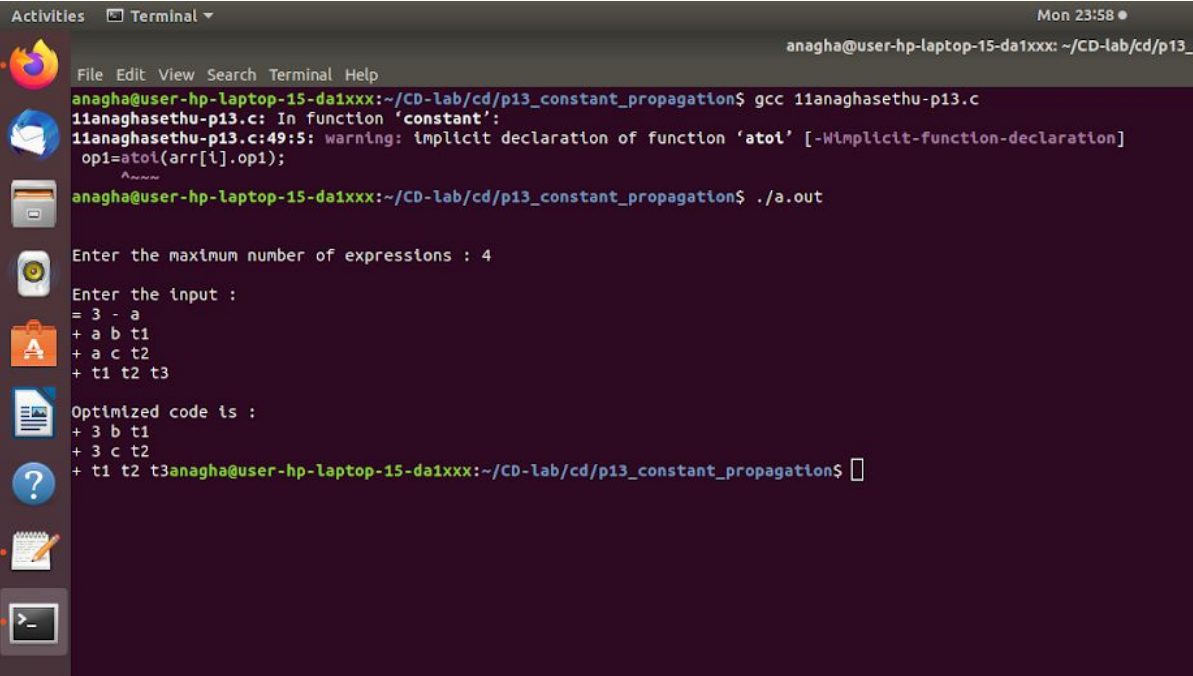
Write a program to perform constant propagation.

### ALGORITHM

1. Start
2. Construct a control flow graph (CFG).
3. Associate transfer functions with the edges of the CFG.
4. At every node (program point) we maintain the values of the program's variables at that point. We initialize those to  $\perp$ .
5. Iterate until the values of the variables stabilize.
6. Stop

### OUTPUT

```
gcc 11anaghasethu-p13.c
./a.out
```



```
anagha@user-hp-laptop-15-da1xxx: ~/CD-lab/cd/p13_constant_propagation$ gcc 11anaghasethu-p13.c
11anaghasethu-p13.c: In function 'constant':
11anaghasethu-p13.c:49:5: warning: implicit declaration of function 'atoi' [-Wimplicit-function-declaration]
   op1=atoi(arr[i].op1);
       ^~~~~
anagha@user-hp-laptop-15-da1xxx:~/CD-lab/cd/p13_constant_propagation$ ./a.out
Enter the maximum number of expressions : 4
Enter the input :
= 3 - a
+ a b t1
+ a c t2
+ t1 t2 t3
Optimized code is :
+ 3 b t1
+ 3 c t2
+ t1 t2 t3anagha@user-hp-laptop-15-da1xxx:~/CD-lab/cd/p13_constant_propagation$
```