Date :

PRACTICAL-4

Objective – Write a program to claculate multiplicative inverse of a number

Code-

```
#include<stdio.h>


int multiplicativeInverse(int a, int m)
{
        a = a%m;
        int i=1;
        for (i=1; i<m; i++)
        if ((a*i) % m == 1)
                return i;
}


int main()
{
        int a, m;
        printf("\nEnter a and m: ");
        scanf("%d %d",&a,&m);
        printf("Multiplicative Inverse of %d under modulo` %d is: %d\n\
                n",a,m,multiplicativeInverse(a, m));
        return 0;
}
```

Output-

```
(base) [rli@rli Lab4]$ gcc File4.c -o File4
(base) [rli@rli Lab4]$ ./File4

Enter a and m: 3 11
Multiplicative Inverse of 3 under modulo 11 is: 4

(base) [rli@rli Lab4]$ ./File4

Enter a and m: 4 11
Multiplicative Inverse of 4 under modulo 11 is: 3

(base) [rli@rli Lab4]$ ./File4

Enter a and m: 5 185
Multiplicative Inverse of 5 under modulo 185 is: 185

(base) [rli@rli Lab4]$
```