

Lab 10: MEMORY MANAGEMENT TECHNIQUES

CODE:

```
#include <stdio.h>

int main() {

    int ms, ps, nop, np, rempages, i, j, x, y, pa, offset;

    int s[10], fno[10][20];

    printf("\nEnter the memory size -- ");

    scanf("%d", &ms);

    printf("\nEnter the page size -- ");

    scanf("%d", &ps);

    nop = ms / ps;

    printf("\nThe number of pages available in memory are -- %d", nop);

    printf("\nEnter number of processes -- ");

    scanf("%d", &np);

    rempages = nop;

    for(i = 1; i <= np; i++) {

        printf("\nEnter number of pages required for p[%d]-- ", i);

        scanf("%d", &s[i]);

        if(s[i] > rempages) {

            printf("\nMemory is Full");

            break;

        }

        rempages = rempages - s[i];

        printf("\nEnter page table for p[%d] --- ", i);
```

Name: LAIBA NADEEM
Roll No. : DT-22028

```
        for(j = 0; j < s[i]; j++) {  
            scanf("%d", &fno[i][j]);  
        }  
    }  
  
    printf("\nEnter Logical Address to find Physical Address ");  
    printf("\nEnter process number, page number, and offset -- ");  
    scanf("%d %d %d", &x, &y, &offset);  
    if(x > np || y >= s[x] || offset >= ps) {  
        printf("\nInvalid Process or Page Number or Offset");  
    } else {  
        pa = fno[x][y] * ps + offset;  
        printf("\nThe Physical Address is -- %d", pa);  
    }  
    return 0;  
}
```

Name: LAIBA NADEEM
Roll No. : DT-22028

OUTPUT:

```
C:\Users\User1\Documents\lab 10 os dt 006.exe

Enter the memory size -- 100
Enter the page size -- 10
The number of pages available in memory are -- 10
Enter number of processes -- 2
Enter number of pages required for p[1]-- 3
Enter page table for p[1] --- 5 6 7
Enter number of pages required for p[2]-- 2
Enter page table for p[2] --- 2 4
Enter Logical Address to find Physical Address
Enter process number, page number, and offset -- 1 1 5
The Physical Address is -- 65
-----
Process exited after 41.79 seconds with return value 0
Press any key to continue . . .
```

```
C:\Users\User1\Documents\lab 10 os dt 006.exe

Enter the memory size -- 100
Enter the page size -- 10
The number of pages available in memory are -- 10
Enter number of processes -- 2
Enter number of pages required for p[1]-- 3
Enter page table for p[1] --- 5 6 7
Enter number of pages required for p[2]-- 2
Enter page table for p[2] --- 2 4
Enter Logical Address to find Physical Address
Enter process number, page number, and offset -- 2 1 5
The Physical Address is -- 45
-----
Process exited after 19.73 seconds with return value 0
Press any key to continue . . .
```