

LAB # 10

Q) Implement the above code and paste the screen shot of the output.

```
#include <stdio.h>
```

```
int main() {
```

```
    int ms, ps, nop, np, rempages, i, j;
```

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

```
    int process_count = 0;
```

```
    printf("Enter the memory size -- ");
```

```
    scanf("%d", &ms);
```

```
    printf("Enter the page size -- ");
```

```
    scanf("%d", &ps);
```

```
    nop = ms / ps;
```

```
    rempages = nop;
```

```
    printf("The no. of pages available in memory are -- %d\n", nop);
```

```
    printf("Enter number of processes -- ");
```

```
    scanf("%d", &np);
```

```
    for (i = 0; i < np; i++) {
```

```
        printf("\nEnter no. of pages required for p[%d] -- ", i);
```

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

```
        if (s[i] > rempages) {
```

```
        printf("Memory is Full. Cannot allocate pages for p[%d]\n", i);
        break;
    }

    rempages -= s[i];

    printf("Enter page table for p[%d] ---\n", i);
    for (j = 0; j < s[i]; j++) {
        scanf("%d", &fno[i][j]);
    }

    process_count++;
}

// Logical to Physical Address Translation
int x, y, offset, pa;
printf("\nEnter Logical Address to find Physical Address\n");
printf("Enter process no., page number, and offset -- ");
scanf("%d %d %d", &x, &y, &offset);

// Validation
if (x < 0 || x >= process_count || y < 0 || y >= s[x] || offset < 0 || offset >= ps) {
    printf("Invalid Process or Page Number or Offset\n");
} else {
    pa = fno[x][y] * ps + offset;
    printf("The Physical Address is -- %d\n", pa);
}
```

```
    return 0;  
}
```

```
Enter the memory size -- 1000  
Enter the page size -- 100  
The no. of pages available in memory are -- 10  
Enter number of processes -- 2  
  
Enter no. of pages required for p[0] -- 3  
Enter page table for p[0] ---  
5 3 7  
  
Enter no. of pages required for p[1] -- 2  
Enter page table for p[1] ---  
4 1  
  
Enter Logical Address to find Physical Address  
Enter process no., page number, and offset -- 1 1 60  
The Physical Address is -- 160  
  
-----  
Process exited after 90.72 seconds with return value 0  
Press any key to continue . . .
```