

Course Name: Operating systems

LAB: 10

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Roll: DT-22045

PROGRAM:

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

```
int main() {
```

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

```
    int i, j, x, y, offset, pa;
```

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

```
    printf("\nEnter the memory size: ");
```

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

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

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

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

```
    printf("The number of pages available in memory: %d\n", nop);
```

```
    printf("Enter the number of processes: ");
```

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

```
rempages = nop;
```

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

```
    printf("\nEnter number of pages required for process %d: ", i);
```

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

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

```
        printf("Memory is full. Cannot allocate pages for process %d.\n", i);
```

```
        break;
```

```
    }
```

```
    rempages -= s[i];
```

```
    printf("Enter page table for process %d (frame numbers):\n", i);
```

```
    for (j = 0; j < s[i]; j++) {
```

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

```
    }
```

```
}
```

```
printf("\nEnter Logical Address to convert to Physical Address:\n");
```

```
printf("Enter process number, page number, and offset: ");
```

```
scanf("%d %d %d", &x, &y, &offset);
```

```
if (x > np || y >= s[x] || offset >= ps) {
```

```
    printf("Invalid process number, page number, or offset.\n");
```

```
} else {
```

```

    pa = fno[x][y] * ps + offset;

    printf("The Physical Address is: %d\n", pa);

}

return 0;

}

```

Output:

```

C:\Users\Ebaad Khan\Docume
Enter the page size: 100
The number of pages available in memory: 10
Enter the number of processes: 2

Enter number of pages required for process 1: 3
Enter page table for process 1 (frame numbers):
5 6 3

Enter number of pages required for process 2: 2
Enter page table for process 2 (frame numbers):
1 4

Enter Logical Address to convert to Physical Address:
Enter process number, page number, and offset: 1 2 20
The Physical Address is: 320

-----
Process exited after 58.14 seconds with return value 0
Press any key to continue . . .

```