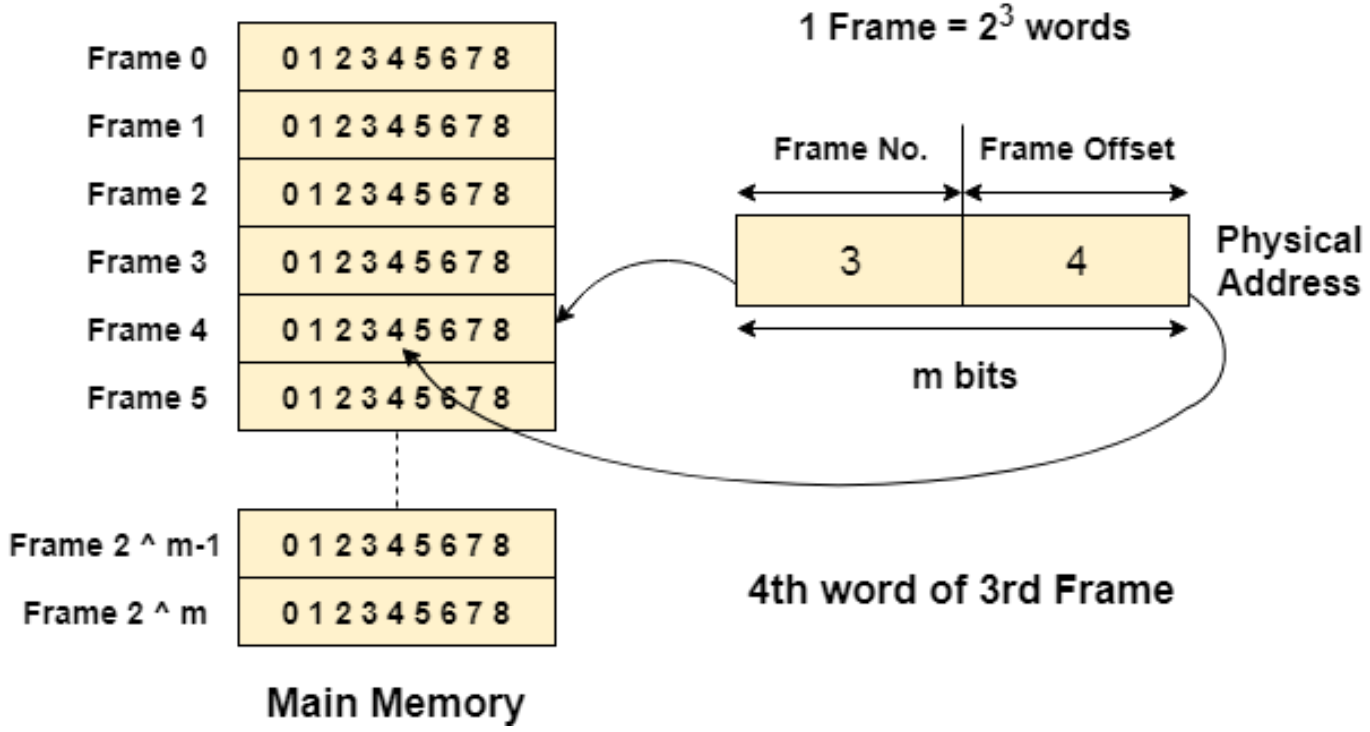
Experiment No. 6
Write a program to demonstrate paging.

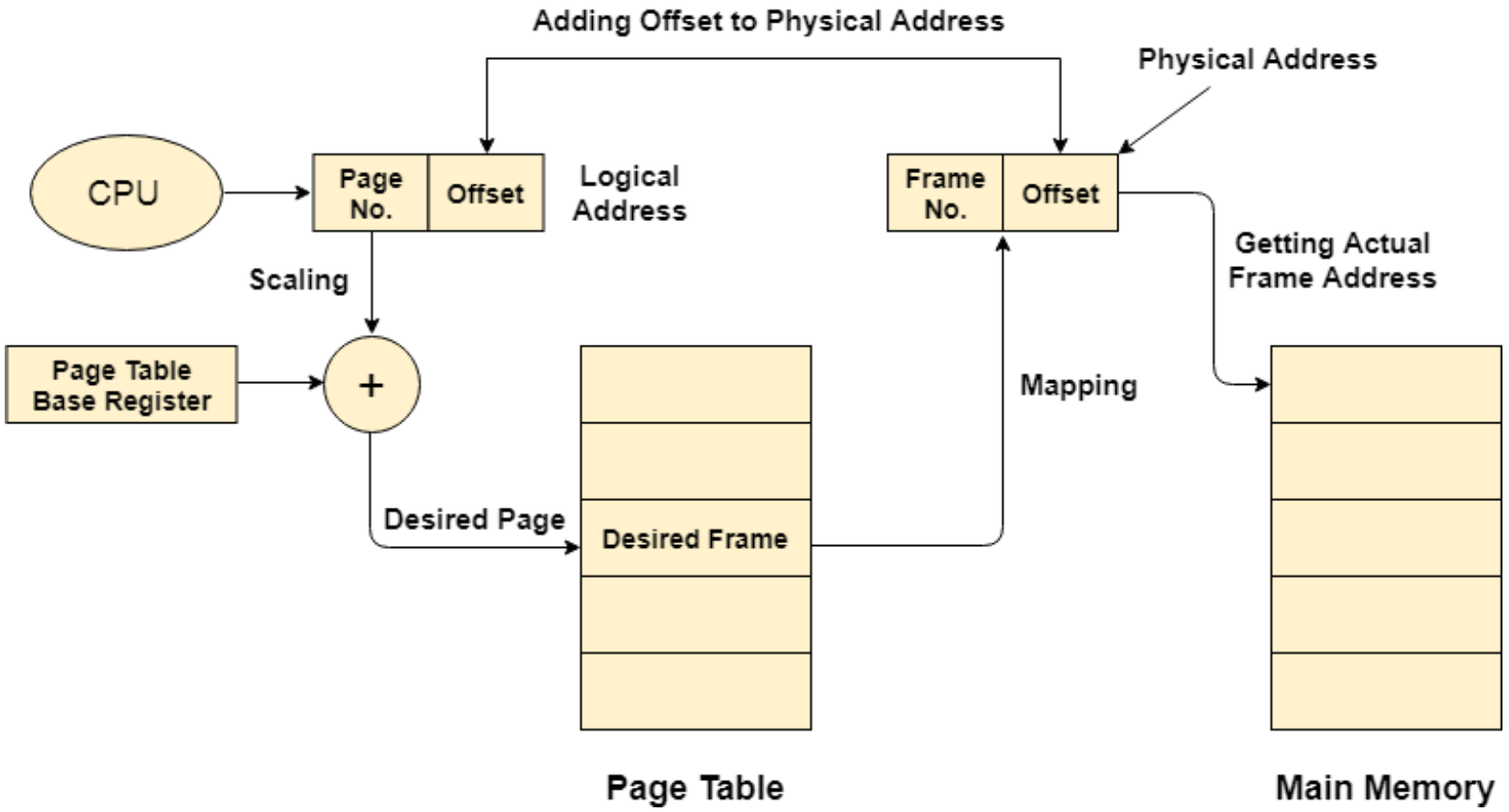
By

Harshali Bhuwad

Page Table


1 Frame = 2^3 words
Frame No.
Frame Offset
3
4
Physical Address
m bits
Frame 0
Frame 1
Frame 2
Frame 3
Frame 4
Frame 5
Frame 2 ^ m-1
Frame 2 ^ m
0 1 2 3 4 5 6 7 8
4th word of 3rd Frame
Main Memory

Mapping from page table to main memory



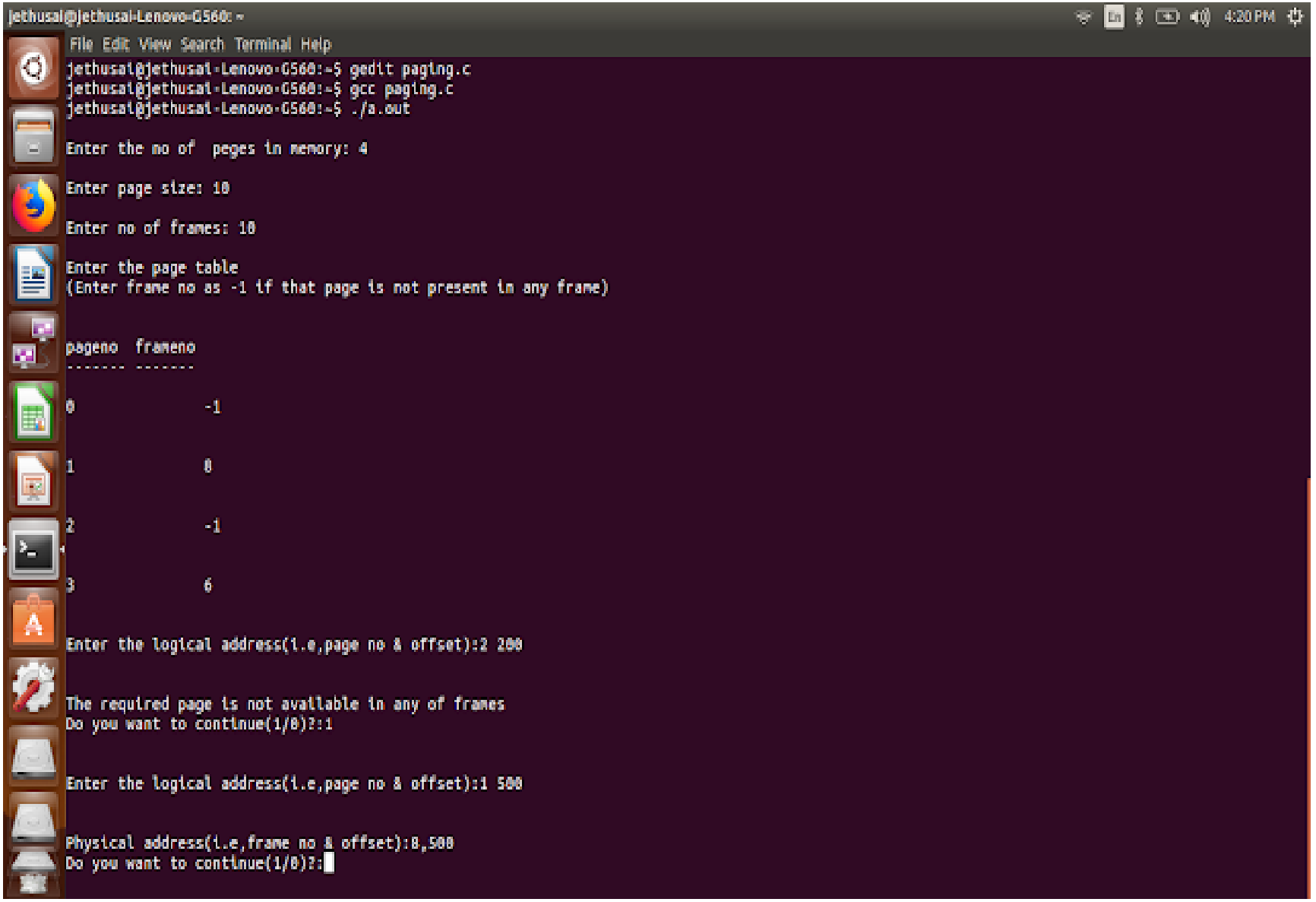
Algorithm

- Step 1: Read all the necessary input from the keyboard.
- Step 2: Pages -Logical memory is broken into fixed - sized blocks.
- Step 3: Frames –Physical memory is broken into fixed – sized blocks.
- Step 4: Calculate the physical address using the following Physical address = (Frame number * Frame size) + offset
- Step 5: Display the physical address.
- Step 6: Stop the process.

Program

```
#include<stdio.h>
#define MAX 50
int main()
{
int page[MAX],i,n,f,ps,off,pno;
int choice=0;
printf("\nEnter the no of  pages in memory: ");
scanf("%d",&n);
printf("\nEnter page size: ");
scanf("%d",&ps);
printf("\nEnter no of frames: ");
scanf("%d",&f);
for(i=0;i<n;i++)
page[i]=-1;
printf("\nEnter the page table\n");
printf("(Enter frame no as -1 if that page is not present in any frame)\n\n");
printf("\npageno\tframeno\n-------\t-------");
```

```
for(i=0;i<n;i++)
{
printf("\n\n%d\t\t",i);
scanf("%d",&page[i]);
}
do
{
printf("\n\nEnter the logical address(i.e,page no & offset):");
scanf("%d%d",&pno,&off);
if(page[pno]==-1)
printf("\n\nThe required page is not available in any of frames");
else
printf("\n\nPhysical address(i.e,frame no & offset):%d,%d",page[pno],off);
printf("\nDo you want to continue(1/0)?:");
scanf("%d",&choice);
}while(choice==1);
return 1;
}
```


jethusai@jethusai-Lenovo-G560: ~
4:20 PM
File Edit View Search Terminal Help
jethusai@jethusai-Lenovo-G560:~$ gedit paging.c
jethusai@jethusai-Lenovo-G560:~$ gcc paging.c
jethusai@jethusai-Lenovo-G560:~$ ./a.out
Enter the no of peges in memory: 4
Enter page size: 10
Enter no of frames: 10
Enter the page table
(Enter frame no as -1 if that page is not present in any frame)
pageno frameno
0 -1
1 0
2 -1
3 6
Enter the logical address(i.e,page no & offset):2 200
The required page is not available in any of frames
Do you want to continue(1/0)?:1
Enter the logical address(i.e,page no & offset):1 500
Physical address(i.e,frame no & offset):8,500
Do you want to continue(1/0)?: