**Fatima Jinnah Women University**
Department of Software Engineering

# LAB 10

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**Section:** A

**Semester:** Third

**Course:** Operating System (LAB)

# Task # 1

**Write a program for first fit and best fit algorithm for memory management.**

task.c

```c
#include<stdio.h>
void main()
{
    int bsize[10], psize[10], bno, pno, flags[10], allocation[10], i, j;
    for(i = 0; i < 10; i++)
    {
        flags[i] = 0;
        allocation[i] = -1;
    }
    printf("Enter no. of blocks: ");
    scanf("%d", &bno);
    printf("\nEnter size of each block: ");
    for(i = 0; i < bno; i++)
        scanf("%d", &bsize[i]);
    printf("\nEnter no. of processes: ");
    scanf("%d", &pno);
    printf("\nEnter size of each process: ");
    for(i = 0; i < pno; i++)
        scanf("%d", &psize[i]);
    for(i = 0; i < pno; i++)          //allocation as per first fit
        for(j = 0; j < bno; j++)
            if(flags[j] == 0 && bsize[j] >= psize[i])
            {
                allocation[j] = i;
                flags[j] = 1;
                break;
            }
    //display allocation details
    printf("\nBlock no.\tsize\t\tprocess no.\t\tsize");
    for(i = 0; i < bno; i++)
    {
        printf("\n%d\t\t%d\t\t", i+1, bsize[i]);
        if(flags[i] == 1)
            printf("%d\t\t\t%d",allocation[i]+1,psize[allocation[i]]);
        else
            printf("Not allocated");
    }
}
```

```
~$ nano task.c
~$ gcc task.c
~$ ./a.out
Enter no. of blocks: 3

Enter size of each block: 15
12
10

Enter no. of processes: 3

Enter size of each process: 40
15
20

Block no.       size            process no.             size
1               15              2                       15
2               12              Not allocated
3               10              Not allocated~$
```