**Problem 9:**

1. Write a program to implement the First fit memory management algorithm. Program should take input total no. of memory block, their sizes, process name and process size. Output of program should give the details about memory allocated to process with fragmentation detail.

# Write a program to implement the Next fit memory management algorithm. Program should take input total no. of memory block, their sizes, process name and process size. Output of program should give the details about memory allocated to process with fragmentation detail.

# Answer:

# Source code:

# #include<stdio.h>

# #include<limits.h>

# #include<stdbool.h>

# typedef struct{

# char process\_name[3];

# int size,allocated;

# }process;

# void print\_table(process pr[],int m){

# puts(" \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

# puts("| Process name | Size | Alloted |");

# puts("|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_|");

# for(int i=0;i<m;i++){

# printf("| %s | %3d | %2d |\n",

# pr[i].process\_name,pr[i].size,pr[i].allocated);

# }

# puts("|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_|");

# }

# void main()

# {

# int n,m,i,j;

# printf("Enter total number of memory blocks\t");

# scanf("%d",&n);

# int mem\_block[n];

# printf("Enter the block sizes\n");

# for(i=0;i<n;i++){

# scanf("%d",&mem\_block[i]);

# }

# printf("Enter total number of processes\t");

# scanf("%d",&m);

# process pr[m];

# printf("Enter process details--> Process Name, Process Size.\n");

# for(i=0;i<m;i++){

# scanf("%s %d",pr[i].process\_name,&pr[i].size);

# pr[i].allocated=-1;

# }

# for(i=0;i<m;i++){

# for(j=0;j<n;j++){

# if(mem\_block[j]>=pr[i].size){

# mem\_block[j]-=pr[i].size;

# pr[i].allocated=j+1;

# break;

# }

# }

# }

# print\_table(pr,m);

# }

# Output:

# 

# Source Code:

# #include<stdio.h>

# typedef struct{

# char process\_name[3];

# int size,allocated;

# }process;

# void algorithm(int mem\_block[],process pr[],int m, int n){

# int i,j,k=0;

# for(i=0;i<m;i++){

# j=k;

# while(1){

# if(mem\_block[j]>=pr[i].size){

# mem\_block[j]-=pr[i].size;

# pr[i].allocated=j+1;

# k=j;

# break;

# }

# j=(j+1)%n;

# if(j==k) break;

# }

# }

# }

# void print\_table(process pr[],int m){

# puts(" \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_");

# puts("| Process name | Size | Alloted |");

# puts("|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_|");

# for(int i=0;i<m;i++){

# printf("| %s | %3d | %2d |\n",

# pr[i].process\_name,pr[i].size,pr[i].allocated);

# }

# puts("|\_\_\_\_\_\_\_\_\_\_\_\_\_\_|\_\_\_\_\_\_|\_\_\_\_\_\_\_\_\_|");

# }

# void main(){

# int n,m,i,j;

# printf("Enter total number of memory blocks\t");

# scanf("%d",&n);

# int mem\_block[n];

# printf("Enter the block sizes\n");

# for(i=0;i<n;i++){

# scanf("%d",&mem\_block[i]);

# }

# printf("Enter total number of processes\t");

# scanf("%d",&m);

# process pr[m];

# printf("Enter process details--> Process Name, Process Size.\n");

# for(i=0;i<m;i++){

# scanf("%s %d",pr[i].process\_name,&pr[i].size);

# pr[i].allocated=-1;

# }

# algorithm(mem\_block,pr,m,n);

# print\_table(pr,m);

# }

# Output:

# 