Program :-

```
#include<stdio.h>
int n,i,m[50],choice,mem,first=0,best=0,worst=0;
void firstfit();
void bestfit();
void worstfit();
void main()
{
	printf("Enter the number 0f memory parts : ");
	scanf("%d",&n);

	printf("Enter the size of memory parts\n");
	for(i=0;i<n;i++)
	{
		printf("Enter the size of part %d:",i+1);
		scanf("%d",&m[i]);
	}

	printf("Enter the size of process : ");
	scanf("%d",&mem);

	printf("SELECT YOUR CHOICE\n");
	printf("1.FIRST FIT\n2.BEST FIT\n3.WORST FIT\n4.EXIT\n");
	do{
		printf("Enter your choice : ");
		scanf("%d",&choice);
		switch(choice)
		{
			case 1 :firstfit();
				break;
			case 2 :bestfit();
				break;
			case 3 :worstfit();
				break;
			case 4 :printf("Exited from menu");
				break;
	      default : printf("Invalid choice");
		}
	}while(choice !=4);
}

void firstfit()
{
	for(i=0;i<n;i++)
	{
		if(m[i]>=mem)
		{
			printf("alloted to memory part %d\n",i+1);
			m[i]=m[i]-mem;
			first=1;
			break;
		}
	}
	if(first!=1)
		printf("can't allocate memory!\n");
```

```
}

void bestfit()
{
	for(i=0;i<n;i++)
	{
		if(m[i]>=mem)
		{
			if(best==0)
				best=m[i];
			else if(m[i]<best)
				best=m[i];
		}
	}
	if(best==0)
		printf("can't allocate memory!\n");
      for(i=0;i<n;i++)
	{
		if(m[i]==best)
		{
			m[i]=m[i]-mem;
			printf("alloted to memory part %d\n",i+1);
			break;
		}
	}
}

void worstfit()
{
	for(i=0;i<n;i++)
	{
		if(m[i]>=mem)
		{
			if(worst==0)
				worst=m[i];
			else if(m[i]>worst)
				worst=m[i];
		}
	}
	if(worst==0)
		printf("can't allocate memory!\n");
	for(i=0;i<n;i++)
	{
		if(m[i]==worst)
		{
			m[i]=m[i]-mem;
			printf("alloted to memory part %d\n",i+1);
			break;
		}
	}
}
```

Output :-

```
Enter the number 0f memory parts : 4
Enter the size of memory parts
Enter the size of part 1:10
Enter the size of part 2:40
Enter the size of part 3:50
Enter the size of part 4:5
Enter the size of process : 3

SELECT YOUR CHOICE
1.FIRST FIT
2.BEST FIT
3.WORST FIT
4.EXIT
Enter your choice : 1
alloted to memory part 1

Enter your choice : 2
alloted to memory part 4

Enter your choice : 3
alloted to memory part 3

Enter your choice : 4
Exited from menu
```