**Operating System**

**(CT-353)**

Lab no 09

**Implement the above code and paste the screen shot of the output.**

**CODE:**

#include <stdio.h>

int main() {

int p[10], np, b[10], nb, ch;

int c[10], d[10], alloc[10], flag[10];

int i, j;

printf("\nEnter the number of processes: ");

scanf("%d", &np);

printf("Enter the number of blocks: ");

scanf("%d", &nb);

printf("Enter the size of each process:\n");

for (i = 0; i < np; i++) {

printf("Process %d: ", i);

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

}

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

for (j = 0; j < nb; j++) {

printf("Block %d: ", j);

scanf("%d", &b[j]);

c[j] = b[j];

d[j] = b[j];

}

if (np <= nb) {

printf("\n1. First Fit\n2. Best Fit\n3. Worst Fit");

do {

printf("\nEnter your choice: ");

scanf("%d", &ch);

switch (ch) {

case 1:

printf("\nFirst Fit\n");

for (i = 0; i < np; i++) {

flag[i] = 1;

for (j = 0; j < nb; j++) {

if (p[i] <= b[j]) {

alloc[j] = p[i];

printf("\nProcess %d of size %d is allocated in block %d of size %d", i, p[i], j, b[j]);

flag[i] = 0;

b[j] = 0;

break;

}

}

}

for (i = 0; i < np; i++) {

if (flag[i] != 0)

printf("\nProcess %d of size %d is not allocated", i, p[i]);

}

break;

case 2:

printf("\nBest Fit\n");

for (i = 0; i < nb; i++) {

for (j = i + 1; j < nb; j++) {

if (c[i] > c[j]) {

int temp = c[i];

c[i] = c[j];

c[j] = temp;

}

}

}

printf("\nAfter sorting block sizes:\n");

for (i = 0; i < nb; i++)

printf("Block %d: %d\n", i, c[i]);

for (i = 0; i < np; i++) {

flag[i] = 1;

for (j = 0; j < nb; j++) {

if (p[i] <= c[j]) {

alloc[j] = p[i];

printf("\nProcess %d of size %d is allocated in block %d of size %d", i, p[i], j, c[j]);

flag[i] = 0;

c[j] = 0;

break;

}

}

}

for (i = 0; i < np; i++) {

if (flag[i] != 0)

printf("\nProcess %d of size %d is not allocated", i, p[i]);

}

break;

case 3:

printf("\nWorst Fit\n");

for (i = 0; i < nb; i++) {

for (j = i + 1; j < nb; j++) {

if (d[i] < d[j]) {

int temp = d[i];

d[i] = d[j];

d[j] = temp;

}

}

}

printf("\nAfter sorting block sizes:\n");

for (i = 0; i < nb; i++)

printf("Block %d: %d\n", i, d[i]);

for (i = 0; i < np; i++) {

flag[i] = 1;

for (j = 0; j < nb; j++) {

if (p[i] <= d[j]) {

alloc[j] = p[i];

printf("\nProcess %d of size %d is allocated in block %d of size %d", i, p[i], j, d[j]);

flag[i] = 0;

d[j] = 0;

break;

}

}

}

for (i = 0; i < np; i++) {

if (flag[i] != 0)

printf("\nProcess %d of size %d is not allocated", i, p[i]);

}

break;

default:

printf("Invalid Choice…!");

break;

}

} while (ch <= 3);

}

return 0;

}

**OUTPUT:**

