MEMORY ALLOCATION STRATEGEY

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#include <stdio.h>
void firstFit(int blockSize[], int m, int processSize[], int n) {
    int allocation[n];
    for (int i = 0; i < n; i++) allocation[i] = -1;
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < m; j++) {
            if (blockSize[j] >= processSize[i]) {
                allocation[i] = j;
                blockSize[j] -= processSize[i];
                break;
            }
        }
    }
    printf("\nFirst Fit Allocation:\n");
    for (int i = 0; i < n; i++) {
        printf("Process %d (Size %d) -> ", i+1, processSize[i]);
        if (allocation[i] != -1)
            printf("Block %d\n", allocation[i]+1);
        else
            printf("Not Allocated\n");
    }
}
void bestFit(int blockSize[], int m, int processSize[], int n) {
    int allocation[n];
    for (int i = 0; i < n; i++) allocation[i] = -1;
    for (int i = 0; i < n; i++) {
        int bestIdx = -1;
        for (int j = 0; j < m; j++) {
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            if (blockSize[j] >= processSize[i]) {
                if (bestIdx == -1 || blockSize[j] < blockSize[bestIdx]) {
                    bestIdx = j;
                }
            }
        }
        if (bestIdx != -1) {
            allocation[i] = bestIdx;
            blockSize[bestIdx] -= processSize[i];
        }
    }
    printf("\nBest Fit Allocation:\n");
    for (int i = 0; i < n; i++) {
        printf("Process %d (Size %d) -> ", i+1, processSize[i]);
        if (allocation[i] != -1)
            printf("Block %d\n", allocation[i]+1);
        else
            printf("Not Allocated\n");
    }
}
void worstFit(int blockSize[], int m, int processSize[], int n) {
    int allocation[n];
    for (int i = 0; i < n; i++) allocation[i] = -1;
    for (int i = 0; i < n; i++) {
        int worstIdx = -1;
        for (int j = 0; j < m; j++) {
            if (blockSize[j] >= processSize[i]) {
                if (worstIdx == -1 || blockSize[j] > blockSize[worstIdx]) {
                    worstIdx = j;
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            }
        }
    }
    if (worstIdx != -1) {
        allocation[i] = worstIdx;
        blockSize[worstIdx] -= processSize[i];
    }
  }
  printf("\nWorst Fit Allocation:\n");
  for (int i = 0; i < n; i++) {
    printf("Process %d (Size %d) -> ", i+1, processSize[i]);
    if (allocation[i] != -1)
        printf("Block %d\n", allocation[i]+1);
    else
        printf("Not Allocated\n");
  }
}
int main() {
  int m, n;
  printf("Enter number of memory blocks: ");
  scanf("%d", &m);
  int blockSize[m];
  printf("Enter sizes of %d memory blocks:\n", m);
  for (int i = 0; i < m; i++) scanf("%d", &blockSize[i]);
  printf("Enter number of processes: ");
  scanf("%d", &n);
  int processSize[n];
  printf("Enter sizes of %d processes:\n", n);
  for (int i = 0; i < n; i++) scanf("%d", &processSize[i]);
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    int blockSize1[m], blockSize2[m], blockSize3[m];
    for (int i = 0; i < m; i++) {
        blockSize1[i] = blockSize[i];
        blockSize2[i] = blockSize[i];
        blockSize3[i] = blockSize[i];
    }
    firstFit(blockSize1, m, processSize, n);
    bestFit(blockSize2, m, processSize, n);
    worstFit(blockSize3, m, processSize, n);
    return 0;
}
```