Programiz
C Online Compiler

Interactive C Course

main.c

Run

```c
#include <stdio.h>
#define NUM_PARTITIONS 6

int main()
{
    int partitions[NUM_PARTITIONS] = {300, 600, 350, 200, 750, 125};
    int num_processes = 5;
    int processes[] = {115, 500, 358, 200, 375};

    printf("Initial memory partitions:\n");
    for (int i = 0; i < NUM_PARTITIONS; i++)
    {
        printf("%d KB ", partitions[i]);
    }
    printf("\n");

    for (int i = 0; i < num_processes; i++)
     {
        int j;
        for (j = 0; j < NUM_PARTITIONS; j++)
        {
            if (processes[i] <= partitions[j])
            {
                printf("Process %d (size %d KB) allocated to partition %d
                    (size %d KB)\n",
                    i + 1, processes[i], j + 1, partitions[j]);
                partitions[j] -= processes[i];
                break;
```

Output

Clear

```
/tmp/j4RrXO3cfU.o
Initial memory partitions:
300 KB 600 KB 350 KB 200 KB 750 KB 125 KB
Process 1 (size 115 KB) allocated to partition 1 (size 300 KB)
Process 2 (size 500 KB) allocated to partition 2 (size 600 KB)
Process 3 (size 358 KB) allocated to partition 5 (size 750 KB)
Process 4 (size 200 KB) allocated to partition 3 (size 350 KB)
Process 5 (size 375 KB) allocated to partition 5 (size 392 KB)
Final memory partitions:
185 KB 100 KB 150 KB 200 KB 17 KB 125 KB
```

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Run

```c
    int j;
    for (j = 0; j < NUM_PARTITIONS; j++)
    {
        if (processes[i] <= partitions[j])
        {
            printf("Process %d (size %d KB) allocated to partition %d
                (size %d KB)\n",
                i + 1, processes[i], j + 1, partitions[j]);
            partitions[j] -= processes[i];
            break;
        }
    }
    if (j == NUM_PARTITIONS)
     {
        printf("Process %d (size %d KB) cannot be allocated\n", i + 1,
            processes[i]);
    }
}

printf("Final memory partitions:\n");
for (int i = 0; i < NUM_PARTITIONS; i++)
 {
    printf("%d KB ", partitions[i]);
}
printf("\n");

return 0;
}
```

Output

Clear

```
/tmp/j4RrXO3cfU.o
Initial memory partitions:
300 KB 600 KB 350 KB 200 KB 750 KB 125 KB
Process 1 (size 115 KB) allocated to partition 1 (size 300 KB)
Process 2 (size 500 KB) allocated to partition 2 (size 600 KB)
Process 3 (size 358 KB) allocated to partition 5 (size 750 KB)
Process 4 (size 200 KB) allocated to partition 3 (size 350 KB)
Process 5 (size 375 KB) allocated to partition 5 (size 392 KB)
Final memory partitions:
185 KB 100 KB 150 KB 200 KB 17 KB 125 KB
```