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**Ex. No.: 10b)**
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## FIRST FIT

**Aim:**
To write a C program for implementation memory allocation methods for fixed partition using first fit.

**Algorithm:**
1. Define the max as 25.
2: Declare the variable frag[max],b[max],f[max],i,j,nb,nf,temp, highest=0, bf[max],ff[max]. 3: Get the number of blocks,files,size of the blocks using for loop.
4: In for loop check bf[j]!=1, if so temp=b[j]-f[i]
5: Check highest

**Program Code:**
```
# First Fit Memory Allocation with Fragmentation in Python

def first_fit(blocks, files):
        n_blocks = len(blocks)
        n_files = len(files)

        allocation = [-1] * n_files
        block_allocated = [False] * n_blocks
        fragmentation = [0] * n_files

        for i in range(n_files):
        for j in range(n_blocks):
        if not block_allocated[j] and blocks[j] >= files[i]:
                allocation[i] = j
                fragmentation[i] = blocks[j] - files[i]
                block_allocated[j] = True
                break

        # Output
        print("\nFile_no\tFile_size\tBlock_no\tBlock_size\tFragment")
        for i in range(n_files):
        print(f"{i+1}\t{files[i]}\t\t", end=")
        if allocation[i] != -1:
        block_no = allocation[i]
        print(f"{block_no + 1}\t\t{blocks[block_no]}\t\t{fragmentation[i]}")
        else:
        print("Not Allocated")
```

```
# Input from user
blocks = []
files = []

nb = int(input("Enter the number of blocks: "))
print("Enter the size of the blocks:")
for i in range(nb):
        size = int(input(f"Block {i + 1}: "))
        blocks.append(size)

nf = int(input("\nEnter the number of files: "))
print("Enter the size of the files:")
for i in range(nf):
        size = int(input(f"File {i + 1}: "))
        files.append(size)

# Call the function
first_fit(blocks, files)
```

**OUTPUT:**

```
Enter the size of the blocks:
Block 1: 5
Block 2: 8
Block 3: 4
Block 4: 10

Enter the number of files: 3
Enter the size of the files:
File 1: 1
File 2: 4
File 3: 7

File_no File_size       Block_no        Block_size      Fragment
1       1               1               5               4
2       4               2               8               4
3       7               4               10              3
```

**RESULT:**

Hence, First Fit memory allocation technique using Python has been implemented.