Exp: 10a)

Aim: To implement Best Fit memory allocation technique using Python.

Program Code:

```python
def best_fit(block_size, process_size):
    allocation = [-1] * len(process_size)

    for i in range(len(process_size)):
        best_idx = -1
        for j in range(len(block_size)):
            if block_size[j] >= process_size[i]:
                if best_idx == -1 or block_size[j] < block_size[best_idx]:
                    best_idx = j

        if best_idx != -1:
            allocation[i] = best_idx
            block_size[best_idx] -= process_size[i]

    print("\nProcess No.\tProcess Size\tBlock No.")
    for i in range(len(process_size)):
        print(f"{i+1}\t\t{process_size[i]}\t\t", end='')
        if allocation[i] != -1:
            print(f"{allocation[i] + 1}")
        else:
            print("Not Allocated")

# Sample Data
block_size = [100, 500, 200, 300, 600]
process_size = [212, 417, 112, 426]

best_fit(block_size, process_size)
```

Output:

| Process No. | Process Size | Block No. |
|---|---|---|
| 1 | 212 | 4 |
| 2 | 417 | 2 |
| 3 | 112 | 3 |
| 4 | 426 | 5 |