

Assignment of Operating System

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Assignment of Operating System.

$$P_1 = 458 \quad P_2 = 231 \quad P_3 = 411 \quad P_4 = 331$$

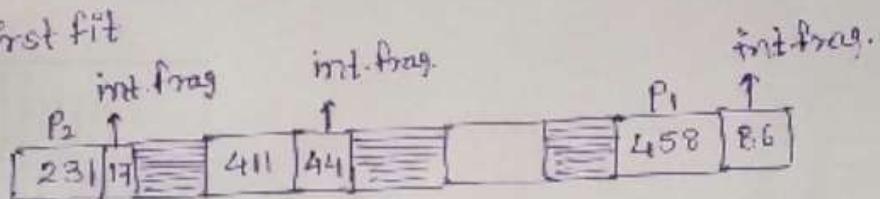


Given :- Some space is occupied.

- (1) for the fixed size partition use first fit, best fit and worst fit algorithm to allocate the memory allocation.



(i) first fit

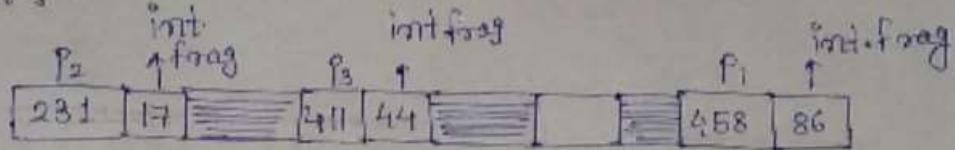


$P_4 = 331$ can't be allocated in 322 unit space
thus it is external fragmentation 331

$$\text{internal fragmentation} = 17 + 44 + 86 \\ = 147$$

External fragmentation = 381

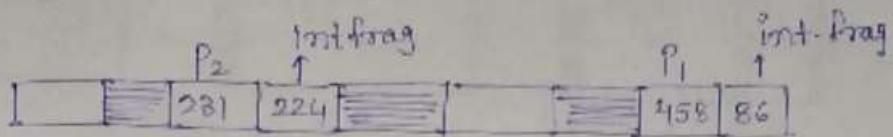
best-fit :



$$\begin{aligned}\text{Internal fragmentation} &= 17 + 44 + 86 \\ &= 147\end{aligned}$$

$$\text{External fragmentation} = 381$$

worst
fit



$$\begin{aligned}\text{Internal fragmentation} &= 224, 86 \\ &= 224 + 86 = 310\end{aligned}$$

$$\begin{aligned}\text{External fragmentation} &= 411, 381 \\ &= 411 + 381 \\ &= 792\end{aligned}$$

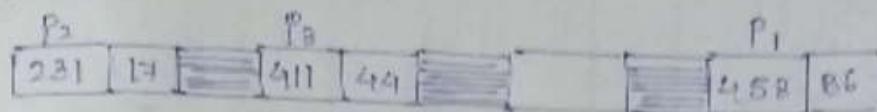
Here is the best-fit algorithm is best, since there is less unit space get waste, because in fixed partition fix size partition is available to allocate the process in best algorithm process will allocate in the smallest unit of allocate by comparing process thus less unit of space is wasted.

So best-fit algorithm is best suited for fixed partitioning memory allocation.

- (2) For variable size partition calculate first fit, best fit and worst fit partitioning techniques



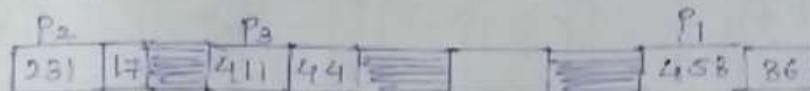
(i) first fit



No internal fragmentation, since it's variable size partitioning so space cannot be wasted

$$\text{External fragmentation} = 331$$

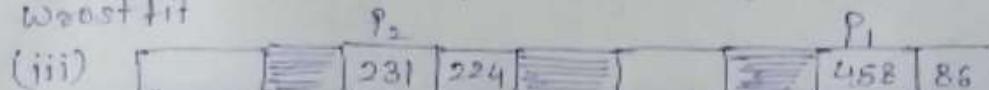
(ii) best fit



$$\text{External frag.} = 331$$

No internal frag.

worst fit



$$\text{External frag.} = 411 + 331 = 742$$

int. frag. = NO.

Here is worst case is best case, since it's variable size partition the left space after allocation of process could not waste, it can be allocate so, since it choose the largest possible octet for allocation of process so the left space is also can be of large size then other process can be allocate.

In best fit, there is less possibility to small unit of process thus it become little difficult to allocate the process in small size partition.