BATCH PROCESSING [modes of processing]

- 1. Collects groups (or batches) of similar data over a period of time
- 2. Inputs the data at an agreed time
- Batches of data are processed in the same way without human involvement when the computer system is least busy (night/weekend) because computer system cannot be used for any other activity while it

[Batching = Night, Other Activity (ex: enquiry system to answer customer billing queries) = Day] APPLICATIONS that use Batch Processing: the data doesn't need to be processed immediately

& have huge volumes of data to collect and progress

- Billing systems (electricity/gas/telephone)
- Payroll systems (weekly/monthly)
- Banking systems (monthly customer statements)

(CUSTOMER) MASTER FILE:

Where the almost all the information of the customer is stored which doesn't change in the short term. (from 1 billing period to the next)

Customer account number
Address details

- Customer name
 - History of previous meter readings

Example: Electricity Billing System collects meter readings from houses to produce quarterly bills for electricity usage.

(CUSTOMER) TRANSACTION FILE (TEMPORARY FILE):

The data created by the customer account number & the new meter reading entered into the computer (from 1 billing period to the next)

- Customer account number

New meter reading

Customer Account Number on the Transaction File + Same Customer Account Number on the Master File = Record matched

ightarrow Calculation of the bill by: the pumper of units used * the price per unit

= 'Batch' of bills produced & sent to customer when batch processing occurs]

Bill paid = Customer maxiel, V_{c} updated uping t et ansaction file (\rightarrow used for the next billing quarter) Special facility provided by OS for multiprogramming:

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- MULTI-USER SYSTEM [modes of processing]
 - When multiple users at different computers simultaneously/at the exact time but sharing the same processor of a more powerful computer.
 - 'time-sharing' / 'time-slicing' system
 - Works by OS switching at high seed between the computers giving each one in turn a small amount of processor time = 'time slice'

<u>Special facility provided by OS for multiprogramming:</u> MULTI-TASKING SYSTEM [modes of processing]

- Having multiple (programs, processes, tasks, threads) running at the same time by 1 user [when computer does more than one task simultaneously by the use of common processing resource (ex: CPU and Memory)]
- CPU works on one task only while other tasks waiting their turn (*process/thread context switching*) [The illusion of parallelism is achieved when the CPU is reassigned to another task]

