Name:- Kashif Ali

Roll No:- 20P-0648

Section:- 5D

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Assignment 01

QNo1:-

Step-1:- Split Array into tasks (Coarse)

Step-2:- Calculate the Sum(local) of tasks (that we have divided)

Step-3:- Calculate the total Sum of tasks. all local Sum values add to the global value declaired.

Step-4:- Divide total Sum by N (N Size of Array)

Q No 2:-

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Instruction Pipelinning:-

Pipelining attempts to Keep every part of processor busy with some Instruction dividing incoming Instructions into series of Sequential Steps performed by dividing units with different parts processed in Parallel.

Super Scalar Execution:-

Super Scalar processor is a CPU that implements a form of Parallelism with in Single Processor can execute more than one instructions during clock Cycle by Simultanously each execution is not not separall processor but an execution resource within single CPU.

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Waste of Super Scalar Execution:-

Vertical Waste
Horizontal waste.

Vertical waste is when the processor issues no Instruction in a cycle.
Horizontal waste when not all Issues slots can be filled in Cycle.

Q NO3:-

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Map Caching is a way to make your map and image Service run faster when you create map Cache the Server draws at Several Scales and stores copies of Map images the Server can distribute these Images whenever someone asks for Map.

There are three different types of Mapping that are given below.

i) Direct Mapping:- Each block from Main Memory has only one Possible place in the Cache organization in this technique.

ii) Associative Mapping:- Here the Mapping of Main Memory block can be done with any of the caches block

→ Memory address has only two fields i.e word & flag.

iii) Set-Associative Mapping:- It is a combination of advantages of both Direct and Associative Mapping.

Q No4.

1 Data Decomposition.

We will use Data Decomposition technique will be used tasks will be assigned to rows data will be Divided.

Q No5. We will Consider the data Set.

T ID	Items
T1	A, B, C
T2	B, D, C
T3	A, F, C, E
T4	A, C, F
T5	A, B, C, E, F
T6	A, B, D
T7	A, F, D
T8	D, E, F
T9	A, B, C, D, E, F
T10	A, C, E, D
T11	B, C, F
T12	B, E, F, D
T13	A, E, D
T14	A, D, E, F
T15	A, B, C, D.
T16	E, F, D, A
T17	C, D, E, F
T18	A, D, B E
T19	B, C, F, E
T20	B, C, D.

This algorithm is used to find the Items sets in the table, than we find the combinations of those Items and we will find their frequency. Here the minimum support is already given to us like in this case it is 2.

→ So all the Items in the Set A, B, C, D, E, F and so on exiting more than once? if yes than they will be chosen for the next Iteration and these are less frequent will be excluded.

→ then in the Second run we will find the frequencies of the combinations of those items, the frequency of each ~~item~~ combination now any the frequencies less than 2 will be exclused.

→ prunning will be done now, means that if we get a Combination A, B, C we will check if all the combinations of A, B, C lets say A, B and A, C and so on will be there for >2 times, if not then we remove the combination from the next item set.

Q09 06

Input Data Partioning :

The input item sets can be divided subsets and then the processing cores will be parallely searching the frequency of each rule set.

A B C D E F
A B D
A B F

we get to check

ABC = 1
BD = 2
AB = 3 .

Output Data Partioning :-

output data partioning can be done we get the combination initialy during the running stage. from that combination (output) we find the frequencies of the rule set.

eg:- A, B, C, D

we get to pick.

AB	2
CD	2
AC	1

we make

Intermediate Data Partioning :-

Intermediate data partioning is talking place because multiple iterations are taking place. Intially in each iteration the item set (considering the input) is checked where a set is make from the Input item set. In every iteration we get the total combination and divide them in specific rule set- and choose the combination where the frequency is greater than the min-mum.

TID	Items.
T1	A, B, C
T2	A, B
T3	A, D
T4	A, D, C

input data partioning

Items	frequency
A	4
B	2
C	2
D	2

Items	frequency
A, B	2
A, C	1
A, D	2
B, C	1
B, D	0
C, D	1

output data partioning

Items	frequency
A, B	2
A, D	2

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