MSE ASSIGNMENT - 3

Question 1

Explore the DVM instructions and prepare a summary of the same atleast for 5 instructions in a detailed format

i) Instruction name ii) syntax iii)example

Solution:

Instruction	Syntax	Example
Move content vy into vx	move vx,vy	move v0, v1 Moves v1 into v0
Return with vx object reference value	return-object vx	return-object v0 Returns with object reference value in v0
Calculates the number of elements of the ***array*** referenced by vy and puts the length value into vx.	array-length vx,vy	array-length v1, v1
Unconditional jump by short offset	goto target	goto 0005 // -0010 Jumps to current position-16 words (hex 10). 0005 is the label of the target instruction.
Checks vx and jumps ***if*** vx is nonzero	if-nez vx,target	if-nez v2, 0014 // +0012 Jumps to current position+18 words (hex 12) if v2 is nonzero. 0014 is the label of the target instruction.

Question 2

Differentiate between mobile and cloud computing

Solution

Mobile Computing	Cloud Computing
Storage on a physical device which can be carried	Storage on the cloud
Physical device on which the storage is should be carried along to access data	Data can be accessed from any device
Does not require Internet	Required internet access
Edits are made on the device and no file synchronisation required	Requires synchronising of files on the devices before they can be accessed
No disaster relief	Data is protected in case of a infrastructure disaster
Privacy of data maintained	Data privacy and security is an issue
Relatively lower storage	Large storage

Question 3

Give an example of an application simulating an environment of context aware computing and justify.

Solution

Mobile Application	Context used	Categorisation of application
Brightness sensors in mobiles and tablets that adjust screen brightness based on light in the environment	Physical context	Automatic contextual reconfiguration
Wifi first option - which disable mobile data option when a recognised wifi is found within the range	Computing context, User context (location)	Automatic contextual reconfiguration, Proximate selection application
GPS and route navigation on phone through map – identifies current location, and guides to the destination	User context (location), Physical context (traffic)	Proximate selection application
Google latitude – assists in finding nearby places - ATMs, restaurents, petrol bunks	User context (location), Time context	Proximate selection application
Bump - file transfer application - transfer files by touching two phones	Computing context (identifies another resource – mobile), physical context and time context (two phones to be touched simultaneously with the application running)	Context triggered application
Phone goes on silent when turned upside down	Physical context	Context triggered application