Lab title - OpenStack.
Learning outcomes - An ability to create virtual machines in the cloud using OpenStack.

In this lab you will create a Virtual Machine (VM) instance using the OpenStack platform. OpenStack should be available to all students that are enrolled on the CMT202 Distributed Cloud Computing module. (If you have trouble logging in, please contact school IT administrator: IT-ServiceDesk@cardiff.ac.uk)

Logging In
Go to this link and log into OpenStack: https://cscloud.cf.ac.uk using your university username and password. Enter cardiff.ac.uk in the domain field.

Creating a virtual machine instance
Please follow the instructions at the following URL to create a virtual machine instance:
https://docs.cs.cf.ac.uk/notes/using-openstack/

Important: when creating an instance, create an Ubuntu Server instance.

Once created, to log into the instance, which has for example a floating IP of 10.72.96.20, perform the following action:
ssh -i ./your_private_key ubuntu@10.72.96.20

Finally, play the Snake and Tetris games
Before we install these games we have to update and upgrade our Ubuntu image and packages by running the following commands:

Update the Ubuntu image to the newest version first: sudo apt-get update
Next, upgrade installed packages to their latest available versions: sudo apt-get upgrade
Choose Y (Yes) in order to start downloading.

Snake game:
Install Linux nsnake game: sudo apt-get install nsnake
Run nsnake: nsnake

Tetris game:
Install Tetris game: sudo apt-get install tint
Run Tetris: tint

Shutting down the instances
When you do not need your instance anymore it should be STOPPED.

How to stop running the instance?
1. Go to Project > Compute > Instances
2. On the right dropdown of the image choose Shut Off Instance and the instance will be stopped. To start the image again, simply press Start Instance in the drop down.