**Computer Science Stage 1 Work Samples**

**TASK: Portable Media Players**
A friend is taking a gap year before continuing their studies and seeks your advice on what portable media player (PMP) would be suitable to purchase for use while traveling overseas. Your friend’s particular interest is in collecting, storing and viewing music video clips, playing games and reading ebooks.

Your friend is keen to purchase the PMP as soon as possible and would like you to provide details about two systems that would suit their needs. You need to use web, newspaper advertisements, magazines and advertising brochures to investigate and collate information about the recommended PMP and price.

To complete this task, you would need to:

Using the web, newspaper advertisements, magazines and advertising brochures investigate what PMP would be most appropriate for your friend’s needs and provide the specifications for two suitable PMPs. Your investigation should consider the most suitable components including storage requirements processor video card consider other requirements such as audio image viewing video playback transferring data extra features take into account the cost of the PMP provide reasons for your choices: related to cost, ease of use, weight, battery life, warranty, PMP as fashion accessory, etc.

**TASK: Home entertainment computer-based system**
You are keen to have the latest home entertainment equipment in your house. You would like to connect a computer to the plasma television located in your home theatre room and you would also like to access the computer in your office from the home theatre room. You will need to investigate possible alternatives for your computer-based system.

To complete this task, you would need to:

Possible alternatives for the computer-based system:
Investigate how you could make the connection between computers in different rooms. Include an explanation of the different alternatives of wireless and cable connections, product recommendations and prices.

Investigate the use of Windows XP Media Centre as an alternative operating system to Windows XP. Explain how this would be used as part of the home entertainment system in your house. Check alternative software that is available to provide the same functions as Windows Media Centre.
Computer Science Stage 2
Work Samples

TASK: Income Tax Calculator
You have been employed as a programmer by a real estate agency that provides home loans to its customers to create a program that they will use for their website to calculate their income for home loan purpose.
The program should allow the user to enter his/her salary/income as input and the “Tax on income” and “Net income” per annum and per week are displayed as output.

To complete this task, you would need to:

1. Program plan and development
   You will plan and develop the application using algorithms and an appropriate programming language. You should make the application easy to use and attractive. You should include:

   - **Algorithms** *(before VB coding starts)* to show how the problem will be solved and to show that you have tried more than one approach.
   - Identification of the different **control structures** used in the algorithm and any **data types** used
   - Interface design diagrams showing the **proposed design** of the interface with annotated comments about design decisions. You need to show a range of alternative designs that could be used.
   - **Source code** for the application, ensuring that indenting, commenting and appropriate variable naming is used.

TASK: Open Source Software
You are the IT administrator for Southside Investment Advisors, a small business with 13 computers running in a Windows environment. Your manager has recently heard about open source software and has asked you to make suggestions about the appropriateness of open source for Southside Investment Advisors.

To complete this task, you would need to:

On the basis of your investigation:

1. Record your views on how this industry is being shaped by:
   a. developers
   b. users.

2. Explain how open source software in general is impacting on the wider community and on proprietary vendors of software.

3. Make recommendations to Southside Investment Advisors about future directions they should take. Justify your recommendations.