Pearson Higher Nationals in

Computing

Unit 1: Programming

Assignment Brief Number: 1

Pearson

Higher National Certificate/Diploma in Computing

Assignment Brief

Student Name/ID Number	
Unit Number and Title	**1. Programming**
Academic Year	
Unit Tutor	
Assignment Title	**Patients Handling System**
Issue Date	
Submission Date	
IV Name & Date	

Unit Learning Outcomes
LO1 Define basic algorithms to carry out an operation and outline the process of programming an application.

Submission Format – L01
A Report which include the requested algorithms and the flowchart for the given organisation. The submission is in the form of a ten-minute Microsoft® PowerPoint® style presentation to be presented to your manager. The presentation can include links to performance data with additional speaker notes and a bibliography using the Harvard referencing system. The presentation slides for the findings should be submitted with speaker notes. You are required to make effective use of headings, bullet points and subsections as appropriate. Your research should be referenced using the Harvard referencing system. The recommended word limit is 500 words, including speaker notes, although you will not be penalised for exceeding the total word limit.

Assignment Brief and Guidance – L01

Patients Handling System

New Lanka Hospital has 5 doctors who carry out all the medical treatments on patients and 5 nurses who assist with treatment and also, act as administrators.

The nurse's role includes the making of appointments, invoicing customers, recording treatments and general administration duties.

The medical centre currently stores all information on paper based records and wishes to transfer to an electronic system to improve efficiency. The system will be for staff use only. The system needs to store details of the patients, treatment carried out on patients, Supplier held (drugs, bandages etc...) and be able to generate invoices notifying patients and payments dues.

There are two payments types within the centre. The patients can pay daily basis or monthly basis .New patients can pay only daily basis. Regular patients can select the payment type. If regular patient select monthly basis payment type they are sent invoices on the last day of month in which treatment was administrated and have one calendar month to settle their account. Patients who do not pay within the allocated period may not have any further treatment for any of them until the account is fully paid.

As an improvement if the current system they wants to take some important reports from the system.

The centre is open between 09.00 and 17.00 Monday to Saturday and appointments can only be made during these hours. For emergencies one doctor and one nurse are on duty during "out of hours" time.

New Lanka hospital Made and appointment with your company project manager and sign the agreement for produce the requested above software.

- **Part 1:** You are working as a program designer for your company. Your manager ask you to write the pseudocodes and draw the flow charts for generate the following reports. Produce a dry run for the report 1.

Report 1.

A list of all regular patients with details of each patient, showing Patient No, Name, Age, and etc…..

Report 2.

A list of all patients who have the due amount, showing the details of payments and total numbers of patients with due amount.

- **Part 2:** Your Manager Ask you to produce a presentation which explain the definition of algorithms and evaluation of the relationship between the algorithm and the code variant.

Learning Outcomes and Assessment Criteria		
Pass	**Merit**	**Distinction**
LO1 Define basic algorithms to carry out an operation and outline the process of programming an application		
P1 Provide a definition of what an algorithm is and outline the process in building an application.	**M1** Determine the steps taken from writing code to execution.	**D1** Examine the implementation of an algorithm in a suitable language. Evaluate the relationship between the written algorithm and the code variant.

Submission Format – L02
The submission is in the form of an individual written report. This should be written in a concise, formal business style using single spacing and font size 12. You are required to make use of headings, paragraphs and subsections as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. Please also provide a bibliography using the Harvard referencing system. The recommended word limit is 2,000–2,500 words, although you will not be penalised for exceeding the total word limit.

Unit Learning Outcomes
LO2 Explain the characteristics of procedural, object-orientated and event-driven programming, conduct an analysis of a suitable Integrated Development Environment (IDE)
Assignment Brief and Guidance – L02
Your manager ask you to create a report about the followings: • Different programming methods including Object Oriented Programming, Procedural Programming, Event Driven Programming • Explain the characteristics and differences between above • Evaluate the **Integrated Development Environment** (IDE) including its common features and importance • Explain the different sorting algorithms and Binary search. Implement the selection sort and binary search algorithms using procedural and object methods to implement the following: 1. Sort the patients details according to the patient No in ascending order 2. Search the patient record Patient ID =”1008”

Submission Format – L03

The submission is in the form of below documents:

1. Development Document
2. Report Generation
3. Test Reports (including Test Plan & Test Results
4. Stage 4 – Report (Evaluation Report) including fully commented source code
5. An installable and executable version of your application

The submission is in the form of a ten-minute Microsoft® PowerPoint® style presentation to be presented to your manager.

You are required to make use of appropriate structure, including headings, paragraphs, subsections and illustrations as appropriate, and all work must be supported with research and referenced using the Harvard referencing system.

Unit Learning Outcomes
LO3 Implement basic algorithms in code using an IDE. LO4 Determine the debugging process and explain the importance of a coding standard.
Assignment Brief and Guidance – L03/L04
After completing the Program design your manager ask you to implement fully functional system for the above scenario. Your aim is to create a fully working, secure application that has been developed using an IDE and adheres to coding standards. The document portfolio should include: 1. An ERD and the Class Diagram which related to the above scenario. Do the normalization. (include the relevant sample data according to the taken attributes) 2. Clear Interface Designing & Message Designing and should follow the coding standard & explain benefits of using standards 3. Evidence of how the IDE was used to manage the development of your code. (Easiness of using IDE) 4. Relevant test reports including Test plan, and Test Results Produce a 10 Min Presentation about the evaluation of developing application using an IDE verses developing without using IDE. The working application produced must also be demonstrated.

Learning Outcomes and Assessment Criteria		
Pass	**Merit**	**Distinction**
LO2 Explain the characteristics of procedural, object-orientated and event-driven programming, conduct an analysis of a suitable Integrated Development Environment (IDE)		
P2 Give explanations of what procedural, object-orientated and event-driven paradigms are; their characteristics and the relationship between them.	**M2** Analyse the common features that a developer has access to in an IDE.	**D2** Critically evaluate the source code of an application which implements the programming paradigms, in terms of the code structure and characteristics.
Learning Outcomes and Assessment Criteria		
Pass	**Merit**	**Distinction**
LO3 Implement basic algorithms in code using an IDE		
P3 Write a program that implements an algorithm using an IDE.	**M3** Use the IDE to manage the development process of the program.	**D3** Evaluate the use of an IDE for development of applications contrasted with not using an IDE.
LO4 Determine the debugging process and explain the importance of a coding standard		
P4 Explain the debugging process and explain the debugging facilities available in the IDE. **P5** Outline the coding standard you have used in your code.	**M4** Evaluate how the debugging process can be used to help develop more secure, robust applications.	**D4** Critically evaluate why a coding standard is necessary in a team as well as for the individual.