THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

ADVANCED CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

136/2 **COMPUTER SCIENCE 2**

(For Both School and Private Candidates)

Duration: 3 Hours **Year: 2025**

Instructions

1. This paper consists of **three (3)** questions.
2. Answer **two (2)** questions including question **one (1)**
3. Save your work on the desktop in the folder named by your **Examination Number.**
4. Save your work by using the 1997-2003 version of the MS Office software.
5. Check whether the **printed** work(s) are similar to the **softcopy** saved in the folder.
6. Submit printed codes and screenshots together with the softcopy of your work(s)
7. Cellular phones and any unauthorised materials are **not** allowed in the examination room.
8. Type your **Examination Number** on every page of your softcopy work(s).

1. (a) The Director of Hope secondary school wants to automate the system for students to join the upper class. The school has been using manual system to enforce the students to pass by-laws. Recently, this system has become less efficient due to the increased number of students' enrolment. The pass marks in each subject is 40% and a student must pass at least two subjects out of three to join the higher class. Develop a C++ program that will enable the school to achieve the goal. The program should:
   (i) prompt a user to input registration number, name, and marks of three subjects for five students.
   (ii) display the total number and names of students who qualified to join the higher class.
   (iii) display the total number and names of students who failed to join the higher class.

   (b) A Tax officer at UMOJAWETU Company wants to analyze and track the monthly salesmen's profit at the end of the year. Due to the large number of salesmen in the company, manual analysis and tracking of profit data become challenging. The sales manager of the company consulted you to assist automating a process. Develop a C++ program that accepts the monthly profit made by each salesman. Your program should also compute and display the total profit made per year for each salesman and the maximum total profit made per year among all salesmen. (HINT: The manager provided three salesmen as a case study).

2. To solve the challenge of car parking space, the ABC Company decided to build parking garage in different areas of urban cities in Tanzania. The company charges Tshs 500 as a minimum fee per hour. If a car parked for more than one hour but less than 24 hours, charges of Tshs 200 is paid. Otherwise, additional of Tshs 2000 is paid if a car parked for more than 24 hours. You have been consulted by a company to develop a web-based system for managing the parking;

(a) Use HTML to create the interface provided in Figure 1.

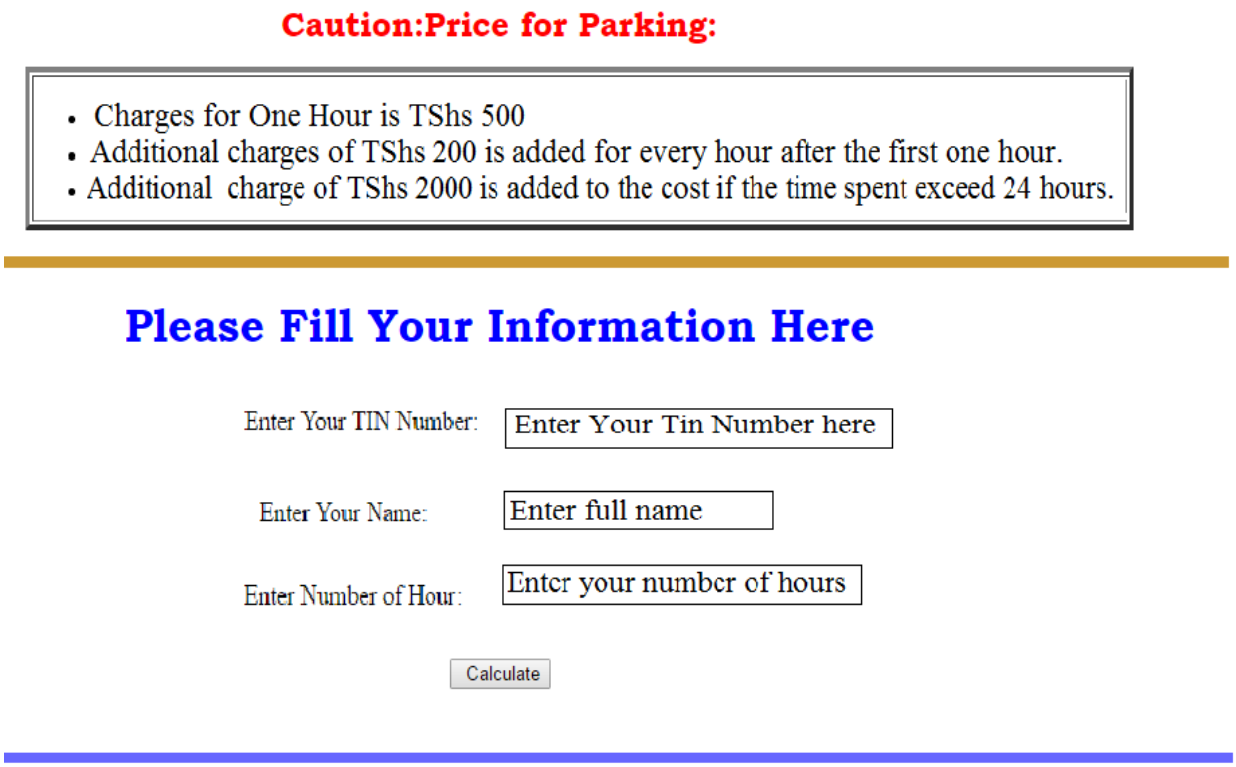


Figure 1.

Descriptions

(i) The colour, font style and the size of the texts "Caution: Price for Parking" should be red, "Bookman Old Style" and heading 2 respectively.

(ii) The font colour style and size of the texts “Please Fill Your Information Here” to blue and “Bookman Old Style” and heading 1 respectively.

(iii) The size, colour, and width of the first horizontal line should be 8,”CC9933” and 1000, respectively.

(iv) The size, width and color of the second horizontal line should be 7, 1000 and “6666ff”, respectively.

(v) The table border should be 3.

(b) Use JavaScript to activate the “Calculate” button in Figure 1 so that the program validates user inputs and computes the parking charges and display the output under the texts “Your Receipt is:”

3. Watukazini Company is doing business of selling cars and car spare parts. The company offers a 15 percent discount once a customer purchased a large quantity of spare parts. Currently, the company is using manual approach to perform computations which causes delay in providing service to customers. Suppose the company manager consulted you to develop an automation system for sales management, using a Visual Basic programming, develop a system for the company.

(a) Create an interface as shown in Figure 2.

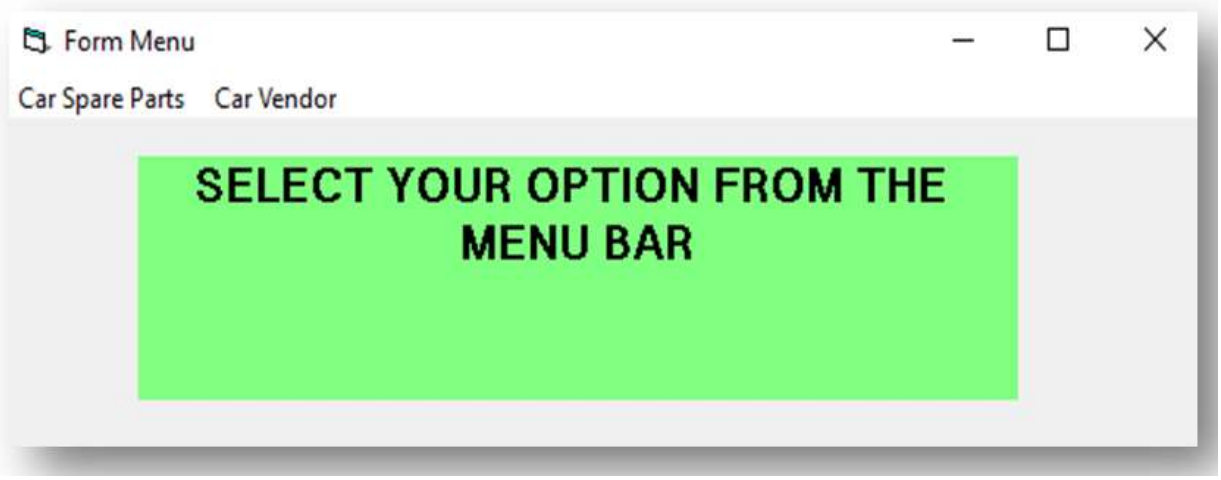
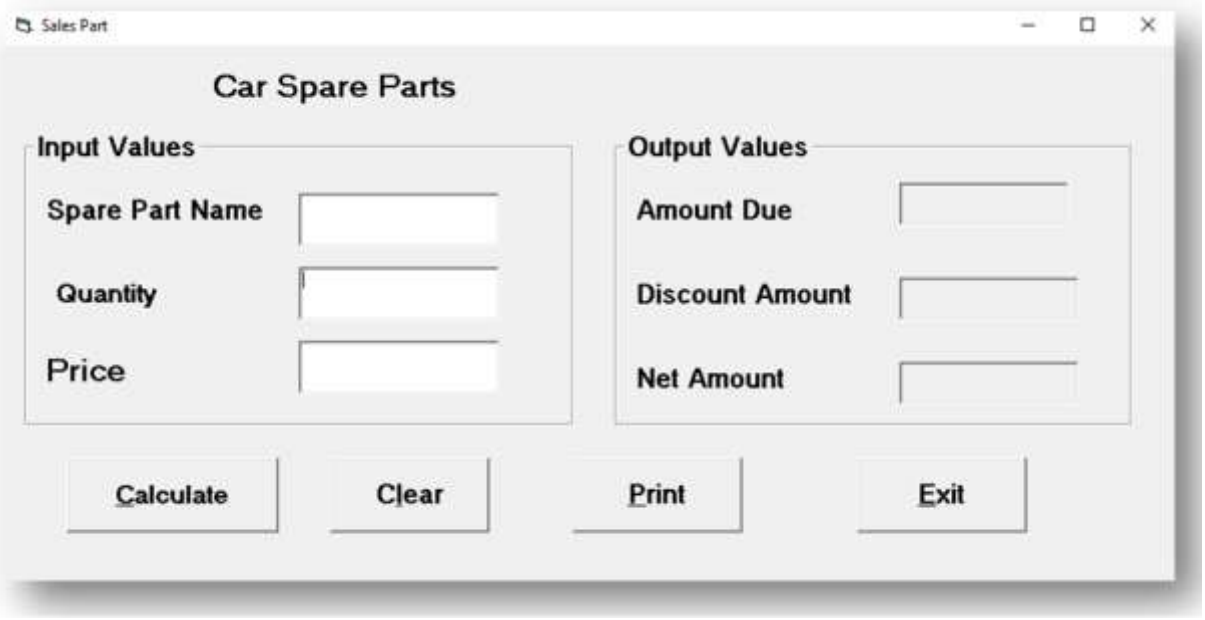


Figure 2

(b) Activate the "Car Spare Parts" menu in Figure 2 to display interface as shown in Figure 3 when a user clicks it.



(c) Activate the Calculate, Clear, Print and Exit buttons in Figure 3, so that:

(i) The discount and net amount are displayed in the respective labels after clicking the "calculate" button. (**HINT**: Net amount = Amount due – Discount amount).

(ii) The entered data is cleared from the form when the user clicks the "Clear" button.

(iii) The form is closed after clicking the "Exit" button.

(iv) The summary report is printed in the form of message box after clicking the "Print" button.

(d) Create a database called "customer" using MS Access and add a table called "vehicle" with fields shown in Figure 4.

(e) Activate the "Car Vendor" menu in Figure 2 to display the interface in Figure 4. The interface allows the company to add customer details to the customer database.

(f) Activate the buttons Search, Add, Save and Exit in Figure 4 to perform their intended task.