



Unit: Introduction to Programming

Assignment title: Glensk Activities

SAMPLE

Important notes

- Please refer to the *Assignment Presentation Requirements* for advice on how to set out your assignment. These can be found on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You must read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensure that you acknowledge all the sources that you use in your work. These documents are available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- You **must** complete the *Statement and Confirmation of Own Work*. The form is available on the NCC Education website. Click on 'Policies & Advice' on the main menu and then click on 'Student Support'.
- Please make a note of the recommended word count. You could lose marks if you write 10% more or less than this.
- You must submit a paper copy and digital copy (on disk or similarly acceptable medium). Media containing viruses, or media that cannot be run directly, will result in a fail grade being awarded for this assessment.
- All electronic media will be checked for plagiarism.

Introduction

This assessment is worth **50%** of your overall grade.

Scenario

Glenesk Activities provide activity days to those seeking action and adventure in beautiful surroundings. They allow customers to customise their stay, choosing the date of the visit, type of lunch required, whether an overnight stay is required, and type of activities required.

Upon selecting the items required, the user should be able to press a button that summarises their choices, provides the total they have to pay, and asks them to confirm. If they confirm that the details are correct, the application should display another message box thanking them for their custom.

Customers **must** select at least one of each of the following essential components for their vacation:

- Date of visit (six options: Saturday 15 August, Sunday 16 August, Saturday 22 August, Sunday 23 August, Saturday 29 August, Sunday 30 August)
- Lunch (four options: salad, sandwiches, soup, baked potato)

Customers **must** select between two and three of the following core activities:

- Quad biking
- Tour of the estate
- Horse riding
- Hill walking

Customers **may** optionally select one or two of the following optional activities. No more than four activities can be chosen in total, so customers who chose two of the core activities may select one or two optional activities, but customers who chose three of the core activities can only choose one of the optional activities at most.

- Archery (£10)
- Falconry (£15)
- Bungee jumping (£70)
- Skydiving (two options: solo (£100) or tandem (£120))

Customers **must** select one (and only one) delivery option for their tickets:

- Electronic (Free)
- Registered next-day delivery (£6.95)
- Standard delivery (£1.95)

The application needs to keep track of how many slots are available for each activity. A maximum of 48 customers per day can go quad biking, a maximum of 16 customers per day can go on the tour of the estate, and a maximum of 24 customers per day can go horse riding. There is no limit to the number of customers who can go hill walking. The cost of the core activities chosen (a maximum of three) and the lunch option is included in the Activity Day price of £120. Optional activities incur the additional costs as shown above. Optional activities are also limited in numbers. A maximum of 24 customers per day can do archery, a maximum of 40 customers per day can do falconry, maximum of 80

customers per day can try bungee jumping, and a maximum of 12 customers per day can go skydiving.

The application needs to keep track of how many slots on the core activities and the optional activities are available. Before completing an order, the program should check if any of the core or optional activities chosen are fully booked. If so, the customer should be prompted to choose a different option (or options) before the sale can be finalised.

Once the sale is finalised, the customer should be directed to a new screen which requires them to enter their address (house number, street name, town/ city, postcode) and their credit card number. Credit card numbers are 16 digits long and should be entered with no spaces between numbers.

Task – 100 Marks

This assignment is to design, produce (by programming in Visual Basic.NET 2008) and test, the software that Glenesk Activities requires.

Mark distribution

- Design (40 marks)
- Implementation (30 marks)
- Testing (25 marks)
- Publishing programme and installation documentation (5 marks)

Hints on design and implementation

- Plan your GUI layout before starting to create the program.
- Think carefully about which controls are best suited to allow customers to choose components from the options available.
- Create lists of options for each type of component. These should be based on the options given above.
- Think carefully about what validation checks are required.

Guidance

The assessment of your project will depend in part upon the quality of the documentation that you have produced.

- Restate the specification of the assignment by listing the Required Outcomes.
- Take the time required to design the assignment before you type any program code. Follow an appropriate design and documentation sequence.
- Always document your designs **before** you implement them.
- Keep up-to-date Object Definition Sheets and do basic tests at each stage of the development.
- Provide a detailed design including, where appropriate, the design of any algorithms.
- Build in error handling to involve meaningful messages that would help with any future maintenance of the software.
- Annotate all implementation.
- Design a testing strategy.
- Justify the design of suitable comprehensive test data.
- Show evidence of testing.
- Where appropriate, detail any major corrective action that you have taken in the light of the testing process.

Submission requirements

A word-processed document must be submitted incorporating the full documentation of all the significant aspects of the development of the assignment above. The document should be submitted both in paper form and digital form.

Refer to the Guidance above when producing your final documentation.

You are required to submit a publishable copy of the compiled system together with installation notes.

This publishable copy, that includes a setup file, should be on an appropriate medium (CD, USB flash drive, etc.).

Candidate checklist

Please use the following checklist to ensure that your work is ready for submission.

Have you read the NCC Education documents *What is Academic Misconduct? Guidance for Candidates* and *Avoiding Plagiarism and Collusion: Guidance for Candidates* and ensured that you have acknowledged all the sources that you have used in your work?

Have you completed the *Statement and Confirmation of Own Work* form and attached it to your assignment? **You must do this.**

Have you ensured that your work has not gone over or under the recommended word count by more than 10%?

Have you ensured that your work does not contain viruses and can be run directly?

