



American University  
of Beirut

الجامعة الأمريكية في بيروت



*Department of Computer Science*

*Spring 2006*

*CMPS 209 – Final exam- Sample Questions*

*90 minutes*

## Instructions:

1. Make sure that you have one answer sheet and a question booklet of **10** pages.
2. Everything you write on the answer sheet should be in **HB-2 pencil**.
3. Write your name and ID number on **both** the question and answer sheet.

<b>ID NUMBER</b>		
<b>FULL NAME</b>		
<b>SECTION</b>		
<b>ROOM</b>	<input type="checkbox"/> Wing D	<input type="checkbox"/> WHCR
<b>SEAT NUMBER</b>		
<b>INSTRUCTOR</b>	<input type="checkbox"/> Mr. Wassim Mukaddam <input type="checkbox"/> Mrs. Hayat Bohsali	
<b>SIGNATURE</b>		

### I. Programming

The “VB Car Rental Agency” needs your help in building an application that calculates rental charges based on user selection. The agency offers two categories of cars: *family cars* and *sports cars*. The Car rental fees are shown in the following table:

<i>Rental Fees</i>	
<i>Family Car</i>	<i>50 \$ per day for the first week + 30 \$ for every additional day</i>
<i>Sports Car</i>	<i>45 \$ per day</i>

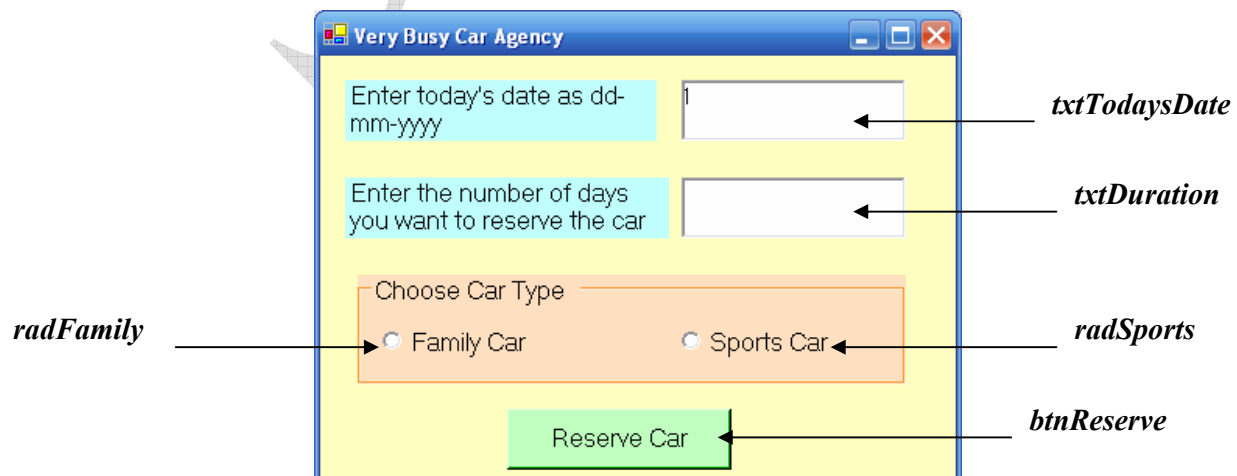
In addition to the car rental, the application should display when user can pick the car from the agency depending on the day of reservation request.

<i>Pick Up Date</i>	
<i>High Season (June, July, August, December)</i>	<i>After 5 days</i>
<i>Regular Season</i>	<i>Next Day</i>

As output, the program should display the rental fees based on the user selection and the duration. Moreover, it should display the pick up date based on table 2 above. Keep in mind that:

<i>Month</i>	<i>Number of Days</i>
<i>Jan, Mar, May, Jul., Aug., Oct., Dec.</i>	<i>31 days</i>
<i>Feb</i>	<i>28 days</i>
<i>Apr., June, Sept., Nov.</i>	<i>30 days</i>

We would like to build a VB.Net application that calculates and displays the rental fees along with the pick up date. The graphical user interface for the “*VB Car Agency*” project is shown below along with the skeleton of the click event procedure for `btnReserve`.



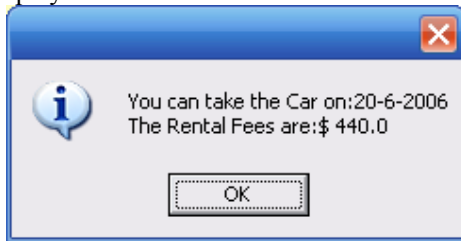
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The program takes as input today's date in *dd-mm-yyyy* format as well as the *number of days* the user wants to reserve the car. Before processing the input to calculate the fee, the program validates input in the following manner:

- The program checks that today's date contains 10 characters, as well as that the month is between 1 and 12. It should display an error message "Invalid Input" and discontinue the event procedure otherwise.

**Sample Output1:** Assume the user wanted to reserve a family car for 10 days on 15-06-2006, the program will display:



**Sample Output2:** Assume the user wanted to reserve a sports car for 8 days on 31-10-2005, the program will display:





**II. SAMPLE Multiple Choice**

1. \_\_\_\_\_ is also called repetitive motion injury and cumulative trauma disorder.
  - a) BRM
  - b) ARD
  - c) EMI
  - d) RSI
  
2. Program specification is also called \_\_\_\_\_.
  - a) program definition
  - b) program design
  - c) program modeling
  - d) program coding
  
3. The \_\_\_\_ structure involves repeating a sequence until a condition is met.
  - a) loop
  - b) sequence
  - c) conditional
  - d) selection
  
4. Which step of software development involves typing statements into a computer?
  - a) Specification
  - b) Design
  - c) Coding
  - d) Maintenance
  
5. A term relating to receiving data from a satellite is
  - a) uplink
  - b) downlink
  - c) modulate
  - d) demodulate
  
6. 8-bits are equivalent to \_\_\_\_\_ bytes .
  - a) 1
  - b) 8
  - c) 16
  - d) 64
  
7. This type of memory is nonvolatile storage .
  - a) RAM
  - b) ROM
  - c) Flash memory
  - d) b and c
  
8. Which binary coding scheme is typically used for mainframe computers?
  - a) Unicode
  - b) ASCII
  - c) EBCDIC
  - d) None of the above

9. The issues that deal with the collection and use of data about individuals is
  - a) access
  - b) property
  - c) accuracy
  - d) privacy
  
10. Select one of the following that is a basic element of every communication system.
  - a) Sending and receiving devices
  - b) Communication channel
  - c) Data transmission specification
  - d) All of the above
  
11. As much as \_\_\_\_ percent of the total lifetime cost for an application program is for maintenance .
  - a) 40%
  - b) 50%
  - c) 60%
  - d) 75%
  
12. People who gain unauthorized access to computers for the purpose of doing damage are called \_\_\_\_.
  - a) employees
  - b) hackers
  - c) members of organized crime
  - d) crackers
  
13. When a hard disk crashes, it is an example of a \_\_\_\_ type of computer security threat.
  - a) natural hazard
  - b) criminal
  - c) technological failure
  - d) civil strife
  
14. A \_\_\_\_ acts as a security buffer between a company's private network and all external networks.
  - a) firewall
  - b) password
  - c) disaster recovery plan
  - d) virus checker
  
15. Most Web-enabled devices follow a standard known as
  - a) FireWire
  - b) Bluetooth
  - c) TCP/IP
  - d) Wi-Fi
  
16. The capacity of a communication channel is known as \_\_\_\_\_.
  - a) bandwidth
  - b) bit capacity
  - c) baud rate
  - d) data flow

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17. A computer network must contain at least this number of computers.
  - a) two
  - b) a few
  - c) twenty
  - d) hundreds
  
18. This type of network spans the offices in one building.
  - a) LAN
  - b) MAN
  - c) WAN
  - d) WLAN
  
19. Which of the following is another name for a chip?
  - a) Silicon chip
  - b) Integrated circuit
  - c) Semiconductor
  - d) All of the above
  
20. The concept of linking people and resources via computer networks is known as
  - a) computer linkage.
  - b) embedded system communication (ESC).
  - c) connectivity.
  - d) objectivity.
  
21. The term used as a measurement of a communication channel's data capacity is
  - a) broadband.
  - b) bandwidth.
  - c) protocol.
  - d) data flow.
  
22. The central host computer or file server in a star network maintains control with its connecting devices through
  - a) sharing.
  - b) networking.
  - c) enterprise computing.
  - d) polling.
  
23. The acronym CPU stands for \_\_\_\_\_.
  - a) central processing unit.
  - b) Commomn procedural unity.
  - c) Co- processor univac.
  - d) control program unit.
  
24. The network strategy extensively used throughout the Internet is a
  - a) terminal network system.
  - b) peer-to-peer network system.
  - c) client/server network system.
  - d) none of the above.

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25. The Visual Basic programming language evolved from \_\_\_\_.
- BASIC
  - Visual C++
  - Visual Studio
  - COBOL
26. When the IDE is in \_\_\_\_ time, you can make modifications to the forms and code of any application or component.
- Run
  - Modification
  - Design
  - Change
27. Which of the following is the best data Type to use for a variable that will store the number of cars in a parking lot?
- Single
  - String
  - Decimal
  - Integer
28. When a project is opened, Visual Basic .NET opens the project within a \_\_\_\_.
- Solution
  - data file
  - panel
  - all of the above
29. The default value for the Text property is \_\_\_\_, a generic name that Visual Basic .NET assigns when creating the form.
- 1Form
  - NewForm
  - Form
  - Form1
30. To lock an individual control, select the control and then click the \_\_\_\_ command on the Format menu.
- Individual Lock
  - Fixed Controls
  - Constant Controls
  - Lock Controls
31. The expression  $5 \setminus 3 + 1$  evaluates to \_\_\_\_.
- 1
  - 3
  - 2
  - 5
32. In the mathematical expression  $4 * 3 + 15 / 3 - 6$  which operation is performed first?
- +
  - \*
  - 
  - /



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33. A relational expression that is preceded by the \_\_\_\_ logical operator forms a condition that is false when the relational expression is true.
- Not
  - Rev
  - Or
  - Off
34. Which of the following would be an appropriate use of a check box control?
- Marital Status (Married, Single)
  - Gender (Female, Male)
  - Full Time - Part Time
  - None of the above
35. Which of the following represents the correct syntax for declaring a variable?
- Dim myvar As Integer
  - Dim myvar
  - Dim myvar Integer
  - Integer myvar
36. Which expression matches the phrase “Is the value contained in age less than 13?”
- age < 13
  - age = 13
  - age <= 13
  - age > 13
37. What data type should a counter variable have?
- Integer
  - String
  - Decimal
  - Single
38. What is the effect of clicking on BtnTry ?

```
Private Sub btnTry_Click()  
    Const TRY = 125  
    TRY= TRY + 10  
    txtOne.text=Try  
End Sub
```

- The value stored in the constant TRY will be 10.
- The value 135 will appear on txtOne.
- The value stored in the constant TRY will be 135.
- The compile error “Assignment to constant not permitted” will be generated.

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39. The `Mid( strEmpName, 1, 5)` instruction is equivalent to which of the following?

- a) `Left(strEmpName, 0, 5)`
- b) `Left(strEmpName, 1, 5)`
- c) `Left(strEmpName, 5)`
- d) `Right(strEmpName, 1, 5)`

40. Given the following: `Private Sub BtnExit_LostFocus()`

`LostFocus` is the name of the :

- a) Event procedure
- b) Event
- c) Action
- d) Action procedure

\*\*\*\*\* END OF EXAM \*\*\*\*\*

Sample