

1. (a) State the function of each of the following controls in a Visual Basic program.
- (i) pointer; (1 mark)
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- (ii) frame ; (1 mark)
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- (iii) ole; (1 mark)
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- (iv) combobox. (1 mark)
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- (b) With the aid of an example, distinguish between the *Name property* and the *Caption property* as used in a Visual Basic program. (4 marks)
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-
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- (c) Explain the following statements used to trap errors at run time in a Visual Basic program.
- (i) On Error Goto; (2 marks)
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-
- (ii) On Error Resume; (2 marks)
-
-
- (iii) On Error Goto 0. (2 marks)
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3. (a) Outline **two** advantages of a Visual Basic Programming language. (2 marks)

(b) (i) Describe the term *data bound control form* as used in Visual Basic. (2 marks)

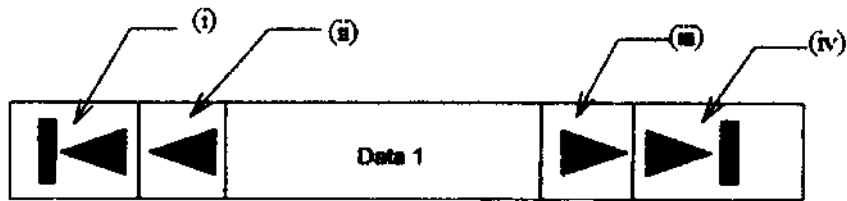
(ii) Outline **four** types of database applications that would be linked to a program written in Visual Basic programming language. (4 marks)

(iii) Explain two roles of a *Visual Data manager* in a Visual Basic Programming language. (4 marks)

(c) Distinguish between a *simple combo box* and a *drop down list combo box*. (4 marks)

- (d) Mary has developed a payroll system for Ufunzi organization. Explain **three** benefits of testing the system before delivering it to the owners. (6 marks)

4. (a) The following is a data control button. Use it to answer the questions that follow.



State the function of the parts labelled (i), (ii), (iii) and (iv) (4 marks)

- (b) Anita would like to use *procedures* to develop an application in Visual Basic. Outline **four** benefits she would achieve from this. (4 marks)

- (c) Describe **three** types of controls that may be used to design a report in Visual Basic. (6 marks)

- (d) Write a Visual Basic program that would accept a number through a text box. The program should then compute the square and the square root of the number and display the output in a label with the following description:
 "The square of "**number**" is "**square**" and its square root is "**square root**".
 Where the **number**, **square** and **square root** are values derived from the code. Attach the code to a command button. (6 marks)

5. (a) (i) State the purpose of each of the following properties of a timer control in Visual Basic programming language.

I interval; (1 mark)

II enabled. (1 mark)

- (ii) Explain giving a reason why it is important to set *AutoSize* property of a picture box to true when designing programs in Visual Basic. (2 marks)

- (b) Distinguish between *module level variable* and *local variable* as used in a Visual Basic program. (4 marks)

- (c) Explain **three** steps to be followed when building a report in a Visual Basic program. (6 marks)

- (d) Write a Visual Basic program that would accept five characters into an array one after the other using an *inputbox()*. The program should then display the characters in the reverse order on a *picture box*. Attach the code to a command button. Use *for next* statement (6 marks)

6. (a) Express the following mathematical expression into its Visual Basic equivalent. (2 marks)

$$\frac{e^{3x}}{\cos(2x) + \sin(x)}$$

- (b) (i) With the aid of an example, describe a *heterogeneous* data structure. (3 marks)

- (ii) Distinguish between a *binary search* and a *linear search* technique as used in data structures. (4 marks)

- (c) Identify **two** errors in the following Visual Basic program giving a reason in each case. (5 marks)

```
Private Sub cmddisplay_Click()  
Dim x, g, n, i, sum As Integer  
x = 0  
y = 1  
Print x  
Print y  
For i = 3 To n  
sum = x + y  
Print sum  
x = y  
y = sum  
y = sum  
End Sub
```

- (d) (i) Describe the function of *menu authentication* on *ADO* properties window as used in Visual Basic programming language. (2 marks)

- (ii) Describe **two** objects of a data environment in Visual Basic program. (4 marks)

- (c) Figure 1 shows a debugging tool bar in a Visual Basic Program. State the function of the tools labelled (i) and (ii). (4 marks)

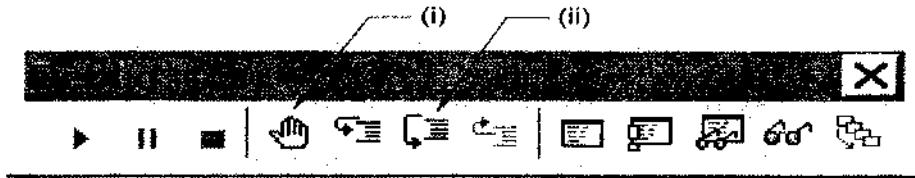


Figure 1

- (d) Write a Visual Basic program that accepts a text through a *text box*. The program should then display the following on a *picture box*:
- (i) Number of characters of the text;
 - (ii) First three characters of the text;
 - (iii) Extract three characters starting from second character.
- Attach the code to a *command button*. (6 marks)

8. (a) Explain the function of each of the following tools Visual Basic programming language tools.
- (i) menu bar; (2 marks)
 - (ii) tool box; (2 marks)
 - (iii) context menu. (2 marks)

(b) Distinguish between *dynaset* and *snapshot* as used in Visual Basic (4 marks)

(c) Explain the function of each of the following types of procedures in Visual Basic. (4 marks)

(i) function procedure;

(ii) event procedure ;

(d) Write a Visual Basic program that would display numbers between 9 and 100 that are divisible by three .The program should then compute average of the numbers and display the average in a picture box. Use a *do while* loop and attach the code to a command click event. (6 marks)
