VBugs Worksheet 8

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| **Name:** |
| **Year Level: SOLUTONS** |

**Answers to Part 1**

Exercise 1: *Creating a list*

1. Create a list of bugs in your program. Write the code you used to achieve this in the area below:

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| Answer:  Module GameLogic  Private listBugs As List(Of Bug)  …  Public Sub Main()  …  LoadResources()  Input.ShowMouse(False)  Randomize()  listBugs = New List(Of Bug)  … |

1. Write a code that will allow each bug in your program to draw and update itself. Write the code you used to achieve this in the area below:

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| Answer:  …  SwinGame.Graphics.ClearScreen(Color.White)  For Each Bug As Bug In listBugs  Bug.Draw()  Bug.Update()  Next  … |

1. Create a function that will free a sprite inside the Bug class. Write the code you used to achieve this in the area below:

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| Answer:  Public Class Bug  Public Sub CleanUp()  DeadSprite.Dispose()  AliveSprite.Dispose()  End Sub  End Class |

**Answers to Part 2**

Exercise 1: *Setting up the level and score*

1. Set up levels and score as shown in tutorial. Write the code you used to achieve this in the area below:

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| Answer:  Module GameLogic  Private level As Integer  Private gameTimer As Timer  Public score As Integer  Private endLevelAt As Integer  Public Sub LevelSetUp()  Core.StopTimer(gameTimer)  For Each Bug As Bug In listBugs  Bug.CleanUp()  Next  listBugs.Clear()  For i As Integer = 1 To level \* 3  listBugs.Add(New Bug)  Next  endLevelAt = 10000 - 500 \* (level - 1)  If endLevelAt < 500 Then endLevelAt = 500  Core.StartTimer(gameTimer)  End Sub  Public Function EndOfLevel() As Boolean  For Each myBug As Bug In listBugs  If myBug.IsAlive Then  Return False  End If  Next  Return True  End Function  Public Sub Main()  …  listBugs = New List(Of Bug)  gameTimer = Core.CreateTimer()  Dim time As Integer  level = 1  LevelSetUp()  score = 0  …  Do  'Clears the Screen to White (customized color)  SwinGame.Graphics.ClearScreen(Color.White)  time = (endLevelAt - Core.GetTimerTicks(gameTimer)) / 100  If EndOfLevel() Then  level = level + 1  LevelSetUp()  End If  If time < 0 Then  score = score - 1  Core.StopTimer(gameTimer)  Core.StartTimer(gameTimer)  End If  … |

Exercise 2: *Printing current score and time on the screen*

1. Load new fonts into your program. Write the code you used to achieve this in the area below:

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| Answer:  Private Sub LoadFonts()  NewFont("cat\_scratch", "cat\_scratch.ttf", 40)  NewFont("bear", "bear.ttf", 120)  NewFont("bear\_huge", "bear.ttf", 170)  NewFont("comic", "comic.ttf", 16)  End Sub |

1. Draw current score and time n the screen. Write the code that enables you to achieve this in the area below:

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| Answer:  …  time = (endLevelAt - Core.GetTimerTicks(gameTimer)) / 100  Text.DrawText("Bugs killed: " & score, Color.Green, GameFont("comic"), 2, 2)  Text.DrawText("Time: " & time, Color.Green, GameFont("comic"), 730, 2)  … |

Exercise 3: *Printing a start and end point of the game*

1. Build into your program DrawLevelStart() and DrawLevelEnd() procedures. Write the code that enables you to achieve this in the area below:

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| Answer:  Module GameLogic  Public Sub DrawLevelStart()  For i As Integer = 1 To 22  Graphics.ClearScreen(Color.White)  Text.DrawText("Level " & level, Color.Green, GameFont("bear"), 280, 200)  Text.DrawText("Score: " & score, Color.Green, GameFont("cat\_scratch"), 320, 300)  Core.RefreshScreen(30)  Core.ProcessEvents()  Next  End Sub  Public Sub DrawLevelEnd()  Do  Graphics.ClearScreen(Color.White)  Text.DrawText("YOU ", Color.Green, GameFont("bear"), 80, 150)  Text.DrawText("LOOOOSE!", Color.Red, GameFont("bear\_huge"), 275, 125)  Text.DrawText("Level " & level, Color.Green, GameFont("cat\_scratch"), 300, 340)  Text.DrawText("Press ENTER to start", Color.Green, GameFont("cat\_scratch"), 180, 480)  Core.RefreshScreen(30)  Core.ProcessEvents()  Loop Until Input.WasKeyTyped(Keys.VK\_RETURN) Or SwinGame.Core.WindowCloseRequested() = True    score = 0  level = 1  LevelSetUp()  End Sub    Public Sub LevelSetUp()  Core.StopTimer(gameTimer)  DrawLevelStart()  …  End Sub  Public Sub Main()  …  'Game Loop  Do  …    If time < 0 Then  score = score - 1  Core.StopTimer(gameTimer)  Core.StartTimer(gameTimer)    If score < 0 Then  DrawLevelEnd()  End If  End If  …  End Sub  End Module |