VBugs Chapter 8 Worksheet

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| **Name:** |
| **Homeroom:** |

**Part 1**

Question 1: Define the term “list”.

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      …  Public Sub Main()  …  LoadResources()  Input.ShowMouse(False)  Randomize()      … |

1. Write the 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)            … |

1. Create the function that will free the sprites. Write the code you used to achieve this in the area below(Delete the lines of code we don’t need any more)::

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| Answer:  Public Class Bug          End Class |

Question 2: Why do we have to free our sprites after we have finished with them?

**Part 2**

*Exercise 1:* Variables and Level Set Up

1. Declare the five new variables we need for our game.

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| Private listBugs As List(Of Bug) |

1. Label and letter (a-e) the correct functions of the parts of LevelSetUp() below:
   1. Adds the bugs to the list
   2. Frees each sprite
   3. Prevents a level from being less than 500 milliseconds
   4. Stops then restarts the timer.
   5. Calculates how long the level goes for.

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| 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 \* 2  listBugs.Add(New Bug)  Next  endLevelAt = 10000 - 500 \* (level - 1)  If endLevelAt < 500 Then  endLevelAt = 500  End If  Core.StartTimer(gameTimer)  End Sub |

Question 1: Using the logic above how long (in seconds) will level 6 be? Show your working.

Question 2: Using the logic above how may bugs will be on the screen in level 6? Show your working.

Question 3: Using the logic above how long (in seconds) will level 20 be? Show your working.

Exercise 2: Ending the Level and Initializing the Game Values

1. Create the code for ending the level and initializing the game values.

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| Module GameLogic                  End Module  …  Do  SwinGame.Graphics.ClearScreen(Color.White)          Loop Until SwinGame.Core.WindowCloseRequested() = True  …  listBugs = New List(Of Bug) |

Question 4: What are the two conditions that will cause the level to end?

Exercise 3: *Setting up the score and score penalty*

1. Implement scoring and score penalties in your game. Debug your game after you do.

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| DeadSprite.EndingAction = SpriteEndingAction.Stop      End If  …  Bug.Update()  Next            Loop Until SwinGame.Core.WindowCloseRequested() = True |

Question 5: A player has a score of 1050, they are on level 4 of the game and the time runs out before they kill all the bugs. What will there score be after the score penalty? Use the logic above to answer this question. Show your working.

Exercise 4: *Printing current score and time on the screen*

1. Load new fonts into your program.

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| NewFont("Courier", "cour.ttf", 16)          End Sub |

1. Draw the player status to the screen. (Test you game after you do)

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| SwinGame.Graphics.ClearScreen(Color.White) |

*Question 6: Why do you think one “Level” has quatations around it in the DrawText statement above and another one in the same statement does not (level). What do you think the quotations mean? What do you think will be shown on the screen?*

*Question 7: In the same statement what do you think the & symbol means?*

*Question 8: If 4 seconds has passed and you are in level 3. What is being diplayed on the screen next to “Time”?*

Exercise 5: *Printing a start and end point of the game*

1. *Build into your program the level introductions.*

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| Module GameLogic                          End Module |

1. *Build into your program the loser screen.*

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| Module GameLogic                                                    End Module |

1. *Build into your program the penalty notice*

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| Module GameLogic                          End Module |

Question 9: How long does the Penalty Notice stay on the screen for(in seconds)? Show your working.