VBugs Worksheet 3

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| --- |
| **Name:** |
| **Year Level: SOLUTIONS** |

**Answers to Part 1**

Exercise 1: *Creating a sprite*

1. Declare the variable “bug” which is a Sprite. Write the code you used to achieve this in the area below:

|  |
| --- |
| Answer:  …  'Load Resources  LoadResources()  Dim bug As Sprite  'Game Loop  … |

1. Write the code which enables you to create the sprite in the area below:

|  |
| --- |
| Answer:  …  'Load Resources  LoadResources()  Dim bug As Sprite  bug = Graphics.CreateSprite(GameImage("sprite"))  … |

1. Draw the sprite on the screen. Write the code that enables you to do this in the area below:

|  |
| --- |
| Answer:  …  'Clears the Screen to Black  SwinGame.Graphics.ClearScreen(Color.White)  Graphics.DrawSprite(bug)  'Refreshes the Screen and Processes Input Events  … |

1. Put Graphics.FreeSprite(variableName) at the end of your program. Write the code that you entered to your program in the area below.

|  |
| --- |
| Answer:  …  'Free Resources and Close Audio, to end the program.  Graphics.FreeSprite(bug)  FreeResources()  … |

**Answers to Part 2**

Exercise 1: *Making the sprite to move*

1. Assign Movement.X of your sprite to 0.5 and put this code before the start of the game loop. Write the code that enables you to do this in the area below:

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| --- |
| Answer:  …  'Load Resources  LoadResources()  bug.Movement.X = 0.5  'Game Loop  … |

1. In order to see how our sprite moves, it needs to be updated within the loop. Write the code that enables you to do this in the area below:

|  |
| --- |
| Answer:  …  'Game Loop  Do  Graphics.UpdateSprite(bug)  'Refreshes the Screen and Processes Input Events  Core.RefreshScreen()  … |

**Answers to Part 3**

Exercise 1: *Stopping the Sprite from moving off the right edge of the screen.*

1. What is happening on the screen? Writhe your answer in the area below:

|  |
| --- |
| *The bug hits the right edge of the screen and changing moving direction to the opposite one.* |

**Answers to Part 4**

Exercise 1: *Stopping the Sprite from moving off the left edge of the screen*

1. What is happening on the screen? Write your answer in the area below:

|  |
| --- |
| *The bug hits the left edge of the screen and changing moving direction to the opposite one.* |

Exercise 2: *Changing the movement direction.*

1. Assign Movement.Y of the Sprite to 0.5, this can be done in the same way as shown in part 1 > exercise 1. Write the code that enables you to do this in the area below:

|  |
| --- |
| Answer:  …  bug.Movement.X = 0.5    bug.Movement.Y = 0.5  'Game Loop  Do  … |

1. Write the code which will stop the Sprite from moving off the top edge of the screen. Write the code that enables you to do this in the area below:

|  |
| --- |
| Answer:  Graphics.DrawSprite(bug)  Graphics.UpdateSprite(bug)  If bug.X <= 0 Then  bug.Movement.X = 0.5  End If  'Refreshes the Screen and Processes Input Events |

1. Write the code which will stop the Sprite from moving off the bottom edge of the screen. Write the code that enables you to do this in the area below:

|  |
| --- |
| Answer:  Graphics.DrawSprite(bug)  Graphics.UpdateSprite(bug)  If bug.Y <= 0 Then  bug.Movement.Y = 0.5  End If  'Refreshes the Screen and Processes Input Events |

**Extra Exercise:**

If you want you can add a second Sprite to your program, follow the same steps to achieve this. Write your solution n the free space below:

…

'Load Resources

LoadResources()

Dim bug1 As Sprite

bug1 = Graphics.CreateSprite(GameImage("sprite"))

bug1.Movement.X = -0.7

bug1.Movement.Y = 0.7

'Game Loop

Do

'Clears the Screen to Black

SwinGame.Graphics.ClearScreen(Color.White)

Graphics.DrawSprite(bug1)

Graphics.UpdateSprite(bug1)

If bug1.X + bug1.Width >= Core.ScreenWidth Then

bug1.Movement.X = -0.5

End If

If bug1.X <= 0 Then

bug1.Movement.X = 0.5

End If

If bug1.Y + bug1.Height >= Core.ScreenHeight Then

bug1.Movement.Y = -0.5

End If

If bug1.Y <= 0 Then

bug1.Movement.Y = 0.5

End If

'Refreshes the Screen and Processes Input Events

Core.RefreshScreen()

Core.ProcessEvents()

Loop Until SwinGame.Core.WindowCloseRequested() = True

'Free Resources and Close Audio, to end the program

Graphics.FreeSprite(bug1)

…