

V Bugs Worksheet 3

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  
  
...
```

2. 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"))  
  
...
```

3. 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  
...
```

4. 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:

Answer:

```
...  
  
    'Load Resources  
    LoadResources()  
  
    bug.Movement.X = 0.5  
  
    'Game Loop  
...
```

2. 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.*

2. What is happening on the screen? Write 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*

2. 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  
  
...
```

2. 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
```

3. 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 in 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
```

```
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)
```

```
...
```