Computing Unit 8.2

SmallBasic

Homework Booklet

Name: …………………………………………

Teacher: ………………………………………

Lesson Time: …………………………………

Homework 1 – IF Statements

IF Statements are also known as SELECTION statements, this means that the program can select one or more options from a list. The simplest form of IF statement works like this.

IF *you do your homework* **THEN** *you get credits/merits*

This is all well and good, however sometimes we need to find out what will happen if we don't do something

IF *you do your homework* **THEN** *you get credits/merits* **ELSE** *you get detention*

This is the code as it is written in SmallBasic

```
1 TextWindow.WriteLine("did you do your homework?")
2 Answer = TextWindow.Readline
3
4 If Answer = "yes" Then
5   TextWindow.WriteLine("WELL DONE, you can have a credit")
6 Else
7   TextWindow.WriteLine("I'm very disapointed, you now have detention")
8 EndIf
```

Questions:

1. Which line of code checks the answer? CHALLENGE – explain why you picked this line.

2. What happens if this command is met (it is TRUE)?

3. What happens if this command is not met (it is FALSE)?

4. CHALLENGE - Can you think of another example that you could use as an IF statement? (You don't have to write it in code, you can just write it like I did at the top of the page.

Homework 2 – While Loops

Do you remember the song when you were young:

- I know a song that will get on your nerves
- get on your nerves
- get on your nerves
- I know a song that will get on your nerves, get get get on your nerves.

This perfectly illustrates the programming example of looping. You repeat this song over and over until someone gets really annoyed with you.

While loops are the programming equivalent. You tell the computer to do something UNTIL a condition is met. Take this example:

```
1  Annoyed = "no"
2
3  While Annoyed = "No"
4
5     textwindow.Writeline("I know a song that will get on your nerves")
6     textwindow.Writeline("get on your nerves")
7     textwindow.Writeline("get on your nerves")
8     textwindow.writeline("I know a song that will get on your nerves, get get get on your nerves.")
9
10    TextWindow.WriteLine("are you annoyed yet?")
11    Annoyed = TextWindow.Read()
12
13 EndWhile
14
```

Questions

Which line of code checks the annoyed variable? CHALLENGE – explain why you picked this line.

Look at the following code. How many times does the program loop?
| ```
1  Counter = 1
2
3  While Counter < 12
4     TextWindow.WriteLine(Counter + " times 12 is " + Counter*12)
5  Counter = Counter + 1
6
7  EndWhile
``` |

CHALLENGE - Can you think of another time that you would use a loop?

Homework 3 – Nesting Statements

Sometimes you want to ask a question, then lead that into another question.

> Do you want a Pizza?
>
> > What flavour Pizza do you want?

You couldn't ask them what flavour pizza you want if you didn't know they wanted a pizza in the first place? In programming this is called nesting statements.

A nested statement is where you can put different things inside one another. It's good if you want to ask more than one question of someone.

```
1  TextWindow.WriteLine("what gender is your Computing teacher?")
2  Gender = TextWindow.Read()
3
4  If Gender = "female"
5
6    TextWindow.WriteLine("what is HER name?")
7    Name = TextWindow.Read()
8
9    If Name = "Miss Noonan"
10     TextWindow.WriteLine("you are taught by the best FEMALE Computing teacher")
11   Else
12     TextWindow.WriteLine("who ARE you taught by?")
13   EndIf
14
15 Else
16   TextWindow.WriteLine("what is HIS name?")
17   Name = TextWindow.Read()
18 EndIf
```

In this example you can see I have an IF Statement inside another IF Statement

QUESTION:

Why did I have an IF Statement inside an IF Statement?

Can you think of another example where you would put an IF statement inside an IF Statement?

Homework 4 – Fixing Programs

The following program contains **6 errors.**

What line each mistake is on, what the mistake is and why it is an error

```
1 correct = 0
2
3 TextWindow.WriteLne("how good are you at solving problems?")
4 response = TextWindow.Read()
5
6 If response = "good"
7    TextWindow.WriteLine("spot the 6 mistakes)
8    While correct <> 6
9      TextWindow.WriteLine("still more to do")
10     correct = correct + 1
11    EndWhile
12
13 ElseIf response = "ok"
14    TextWindow.WriteLine("spot the 4 mistakes")
15
16    While correct = 4
17      TextWindow.WriteLine("still more to do")
18      correct = correct + 1
19    EndWhile
20
21 elseIf response <> "bad"
22    TextWindow.WriteLine("spot the 2 mistakes")
23
24    While correct <> 2
25      TextWindow.WriteLine("still more to do")
26      correct = correct - 1
27
28 EndIf
29 TextWindow.WriteLine("well done, you got" + correct + "correct")
30  EndWhile
```

Mistake No	Line the mistake is on	What the mistake is	Challenge – Why is this a mistake?
1			
2			
3			
4			
5			
6			