Scratch – Simple Programming

If Statements

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Unit Overview

Objectives

Understand why computer programming scripts are used.

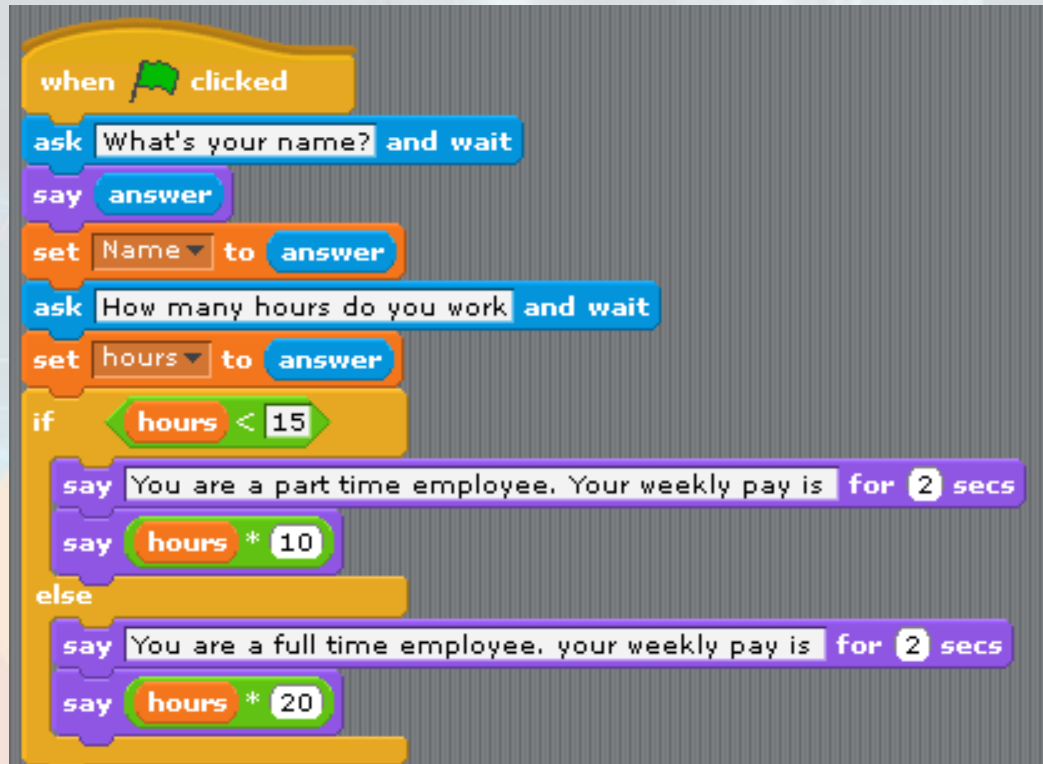Understand the use of Variables as place holders for information.

Understand the use of if and nested if statements in scratch.

Outcomes		Time
Task 1	Job Type	
Task 2	School Status	
Task 3	Phone Sales Target	
Task 4	Goal Bonus	
Task 5	Grades	
Task 6	Extension - Grades	

Starter 1 - Discuss this piece of code


```
when [green flag] clicked
ask What's your name? and wait
say answer
set Name to answer
ask How many hours do you work and wait
set hours to answer
if  hours < 15
    say You are a part time employee. Your weekly pay is  for 2 secs
    say hours * 10
else
    say You are a full time employee. your weekly pay is  for 2 secs
    say hours * 20
```

1) **What will be stored in the variable?**
2) **What is the logical test?**
3) **What is the True Statement?**
4) **What is the False Statement?**

Task 1 – Job Type Part 1

1. Create a simple script which will work out your **weekly pay**.
2. You will need to create **three variables** for your name, hours and pay per hour.
3. You will need to **calculate** and **print out** your weekly pay.
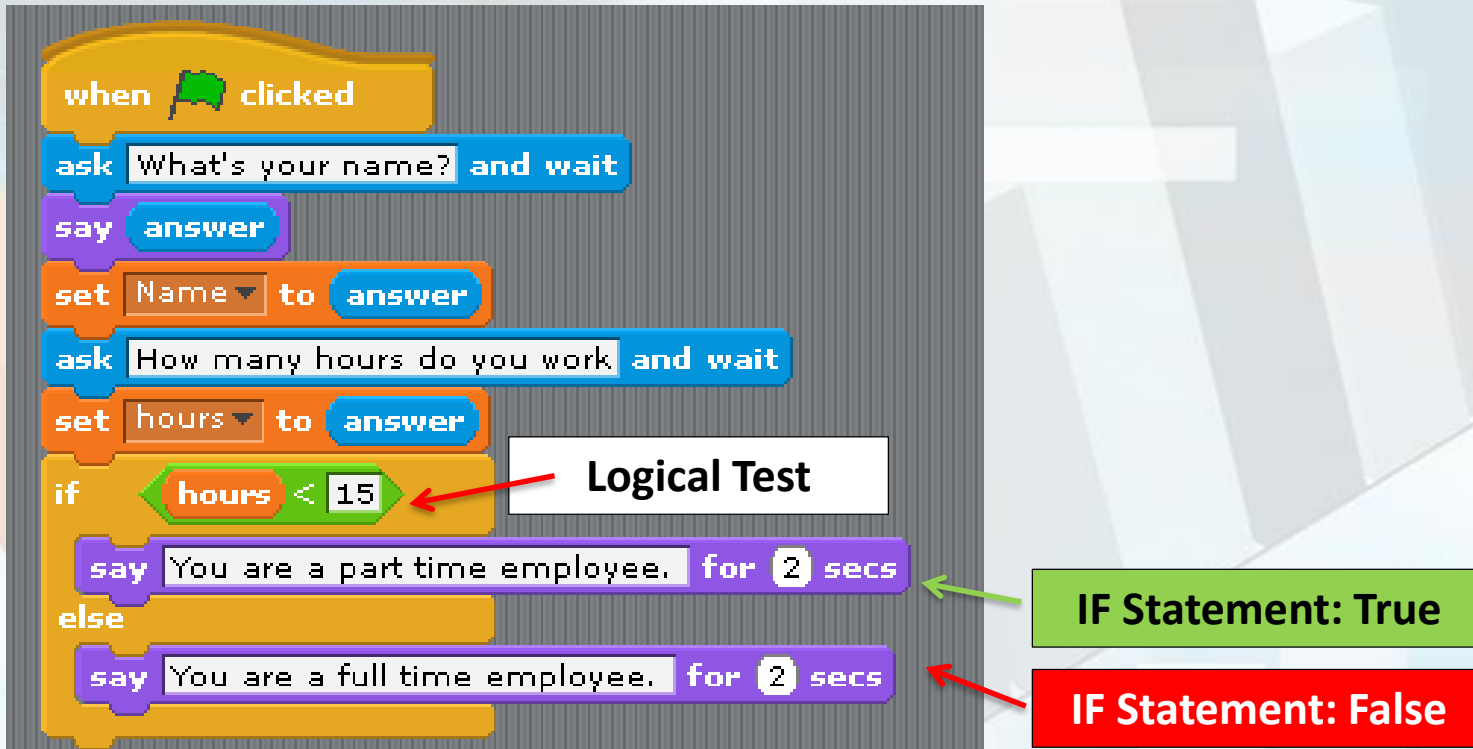
Variables

Hours * Pay per Hour

Calculation and print out of weekly pay

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Task 1 – Job Type – If Statement Part 1

1. Create a simple script to work whether employees are **part time** or **fulltime**.
2. **Logical Test:** Worked Hours less than 15
3. **True: "You are a part time employee"**
4. **False: "You are a full time employee"**

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Task 1 – Job Type – If Statement Part 3

1. Create a simple script to work the employee's weekly wage.
2. If the employee is **part time** than he is paid **£10 per hour (True)**.
3. If the employee is **full time** than he is paid **£20 per hour (False)**.

Tip: You could create a variable to contain the numbers of hours worked.

Logical Test

IF Statement: True

IF Statement: False

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Task 2 – School Status – Nested If (Extension)

1. Create a simple script to work out whether you are in primary, secondary or have left school.

2. Create **two variables** to contain your **name** and **age**.
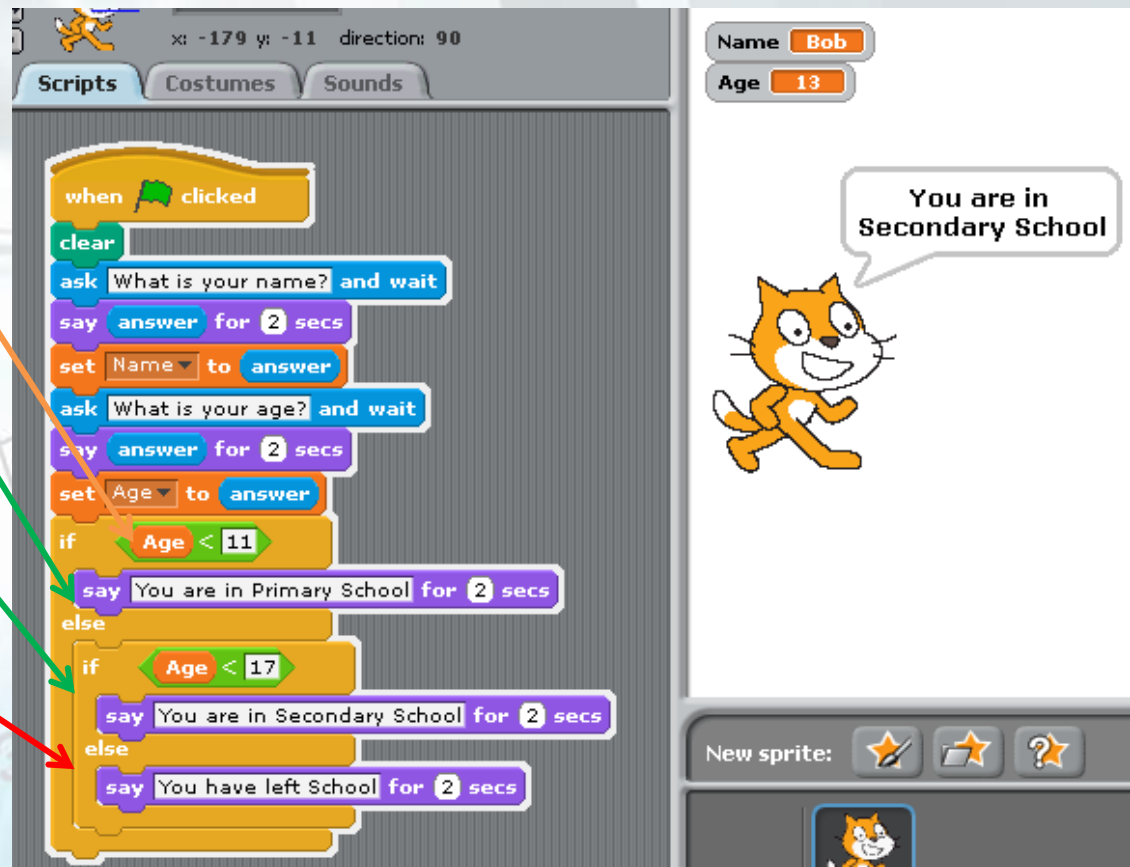
Checking <u>Age</u> Variable

1st True Statement
<11 – You are in Primary School

2nd True Statement
<17 – You are in Secondary School

False: You have Left School

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Task 3 – Phone Sales Target

1. Create a simple script to work out the expected sales for the iPhone and S5 phone.
2. Create **two variables** to contain the **sales person name** and **phone name**.

Checking <u>Phone</u> Variable

1st True Statement
Phone = "iphone"
10 Sales this week

2nd True Statement
Phone = "s5"
15 Sales this week

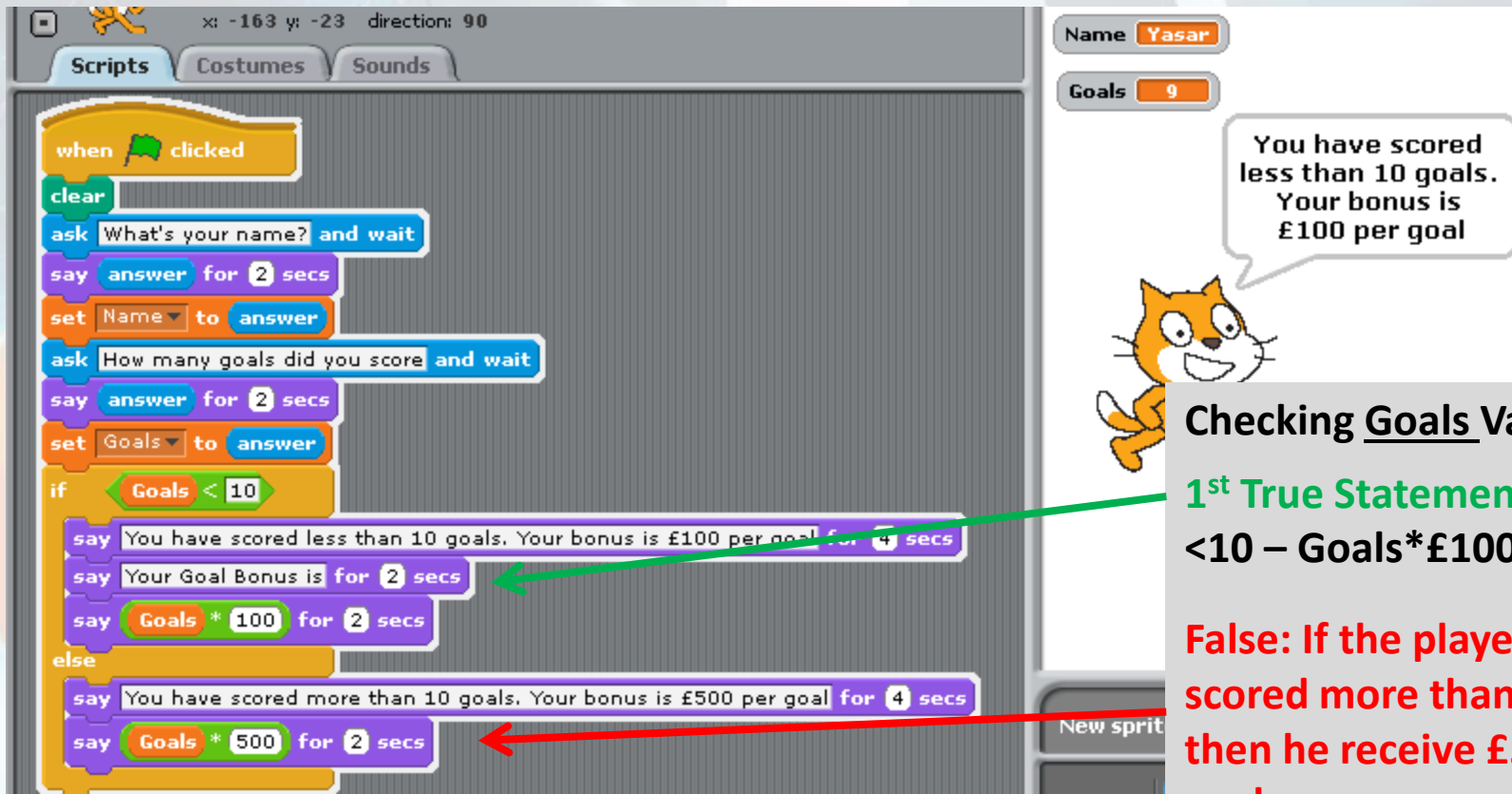**False: 7 sales this week (This is for any other phone you type in)**

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Task 4 – Goal Bonus

1. Create a simple script to work out the goal bonus based on goals scored.
2. Create **two variables** to contain the **player's name** and **number of goals scored**.

Checking Goals Variable

1st True Statement
<10 – Goals*£100

False: If the player has scored more than 10 goals then he receive £500 per goal.

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Task 5 – Grades

Create a simple script to work out the pupils **final grade** based on their **English**, **Maths** and **Science Marks**.

You need to create **5 variables** including one to store the **total marks**.

Checking <u>Total Marks</u> Variable

1st True Statement
>250, A Grade
2ND True Statement
>200, B Grade
3rd True Statement
>150, C Grade
False: anything less than 150 - Fail

Task 6 – Extension

1. Create a simple script to work out the pupils grade.

2. Create **two variables** to contain the **pupils name** and **grade** out of **100**.

Checking Grade Variable

1st True Statement
>90, A* Grade
2nd True Statement
>80, A Grade
3rd True Statement
>70, B Grade
4th True Statement
>60, C Grade
5th True Statement
>50, D Grade

False: anything less than 50 - Fail

Plenary – Refer to the Lesson Objectives

Objectives

Understand why computer programming scripts are used.

Understand the use of Variables as place holders for information.

Understand the use of if and nested if statements in scratch.

Plenary Task (Q&A)

Peer assess each other scripts.
Discuss the levels pupils have achieved for this task.
Question: What is the purpose of variables?
Question: What is the difference between and if and nested if statement?

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