

4.5-4.8: Hybrid Session 1

Prefer to complete this activity offline? – download the following documents:

* Full PowerPoint Slides: [Week 4 Hybrid Session 1 Full Slides.pptx](https://winchester.instructure.com/files/1677412/download?wrap=1)
* Walkthroughs:
  + [4.7 Developing if Statements in Python.docx](https://winchester.instructure.com/files/1677413/download?wrap=1)
  + [4.8 If-Else Statements.docx](https://winchester.instructure.com/files/1677414/download?wrap=1)

In this topic, we will be focussing on the following learning outcome for this week:

* Give examples of using a variety of different selection-based control structures
* Solve problems requiring selection-based control structures within Python

You will have the following learning opportunities:

* To outline the types of selection control structure both in programming and in Python
* To understand and use Boolean Operators
* To implement the main types of control structure within Python



During this hybrid session, you will be engaging in acquisition, collaboration, discussion, and practice learning activities.

# 4.5: Welcome to the Session

In this part of the session, we will introduce the topics we are planning on covering during this hybrid session. For this session we will be focussing on the following topics:

* Discussing Types of Selection Control Structures;
* Boolean Operators;
* If Statements in Python; and
* If-else Statement in Python

During this part of the session, we talked about what we will be considering this week.  We also revised what had been covered in the pre-session material, with a focus on the questions in 4.4.

# 4.6: Boolean Operators

In this part of the first hybrid session, we will introduce the concept of boolean conditions and operators. In your group you will be investigating a particular boolean condition or operation with a view to producing a poster which can be used by your whole seminar group as a revision tool.

We considered the use of boolean conditions and boolean operators within this section.  After an introduction, you were asked to produce posters which introduced the concept of each type of condition or operator. Your tutor should have shared the posters in your Teams channel.

# 4.7: If Statement

In this part we will be introducing the concept of an if statement. We will provide you with a demonstration of the if statement in practice, then give you an opportunity to develop your own skills in constructing them within Python.

We moved on from talking about boolean operators to considering how we would use them within Python, particularly focussed on using the if-statement.  We started to work our way through an example which we would be building on throughout the demonstrations for this week.

# 4.8: If-else Statement

In this part we will be identifying a flaw in our previous demonstration and building on it to introduce the concept of an if-else statement. We will use this else statement for our example to demonstrate how to overcome the issue identified. Finally, we will give you an opportunity to develop your own skills in constructing if-else statements within Python.

When we completed our earlier example using the if statement.  However, when we ran the program, we noticed that when an odd number is entered, it doesn't produce any output.  By using the else statement, we overcame this issue and provided the user with a "useful" output.