**Topic 3 – Activities – if statement**

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| --- | --- |
| Practice activity icon | Practice activity |

**Python Resources:**

[**https://www.w3schools.com/python/python\_conditions.asp**](https://www.w3schools.com/python/python_conditions.asp)

[**https://docs.python.org/3/tutorial/controlflow.html#if-statements**](https://docs.python.org/3/tutorial/controlflow.html#if-statements)

[**https://www.linkedin.com/learning/python-essential-training-2/conditionals?u=57684225**](https://www.linkedin.com/learning/python-essential-training-2/conditionals?u=57684225)

**Exercise 1:**

Write a program to calculate salary. Take input for employee name, rate and weekly hours.  
Then calculate tax using:  
if rate > 45 then the tax is 0.02   
if rate <= 45 then the tax is 0.01

Output the results with the employee’s salary and the amount of tax they will pay.

**Exercise 2:**

Show the grade of a student based on the subject's mark  
if mark < 50 student grade is fail  
if mark between 50 and 60 student grade is pass  
if mark between 60 and 80 student grade is credit  
if mark >= 80 student grade is distinction

**Exercise 3:**

Take user input for a number. Check if the number is Odd or Even, then print the result to the console.

**Exercise 4:**

Write a program that reads in the user name and test if its first character is a vowel (a, o, I, e or u). if it is a vowel a display “the first character is a VOWEL” message, otherwise display a message “the first character is a CONSONANT”

**Exercise 5:**

Write a program that prompts the user for a color.

If the value is "green" or "orange", print "You win."

Otherwise display "Sorry!".

**Exercise 6:**

Write a “fortune telling” program that prompts the user to enter the following for input:

* favourite number from 1 to 50
* favourite colour out of red, grey or black.
* a floating point number from 1 to 10.

Based on the following chart, respond as appropriate.

Then print the fortune to the console.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number 1 to 50** |  | **A color** |  | **Floating point number from 1 to 10** | **Fortune** |
| Less than 9 | or | Less than ‘grey’ | and | equal to 8.43 | “You will win the lottery  soon” |
| not equal to 10 | and | equal to ‘red’ | or | less than or equal to 1.79 | “You will live to 110” |
| greater than/ equal to 26 | and | equal to ‘black’ | or | equal to 8.2 | “You will become the next prime minister” |

For an else statement, print “I cannot read your fortune”

If you complete the exercise, try adding additional statements to this program.

\*You should fully parenthesize your logical expressions in order to make sure it is clear what you mean. In this exercise, always prioritize the first two statements and then connect that result to the last statement.