A picture containing meter, clock, light

Description automatically generated

4.13: Worksheet

Make sure that you write a separate function for each question which is then run by the main(). It will be a good idea if you were to put a comment above stating which question you are answering.

1. Take two int values from user and print greatest among them.
2. Write a function that prompts students for how many credits they have. Print whether or not they have enough credits for graduation (At UoW 360 credits are needed for graduation)
3. Write a program sign.py to ask the user for a number. Print out which category the number is in: 'positive', 'negative', or 'zero'.
4. Write a function to print absolute value of a number entered by user. For example:

*INPUT: 1 OUTPUT: 1*

*INPUT: -1 OUTPUT: 1*

1. The local delivery service has changed their pricing structure. Now, if your address is within 10 miles of the takeaway restaurant, and is over £20, you get free delivery. Otherwise, they add a delivery charge of 20% of the order total. Write a function which requires the user to enter a distance from the takeaway restaurant and the price of the order. This function will then output the total price of the order – including the delivery charge, if relevant.
2. Write a function which takes in a student’s mark, and whether the work was submitted late from the user. The function will then output the grade depending on whether the work was submitted on time. If the work was submitted late, the student is capped at the pass mark of 40% (if the student hasn’t reached 40% and is late, they get the mark they received for the work). Otherwise, the following grade boundaries are used:

|  |  |
| --- | --- |
| **Mark Range** | **Grade** |
| A\* | 80+ |
| A | 70-79 |
| B | 60-69 |
| C | 50-59 |
| D | 40-49 |
| F | 0-39 |

1. A shop will give discount of 10% if the cost of purchased quantity is more than 1000. Write a function which will ask the user for the number of units they require, and then prints the total cost of the order.
2. A company decided to give bonus of 5% to employee if his/her year of service is more than 5 years. Write a function which asks the users for their annual salary and the number of years they have been employed by the organization. It should then tell them how much their bonus will be.
3. A student will not be allowed to sit in exam if his or her attendance is less than 75%. Write a function which takes the following information from the user:

* The number of classes they should have attended
* The number of classes they did attend

The function should then output their attendance percentage and whether they are allowed to sit the exam

1. If a student has a valid medical condition, they will be allowed to sit the exam regardless of whether they have 75% attendance. Modify your answer to question 8 to take this into account.
2. Given the 3 sides of a triangle – x, y and z – write a function to determine whether the triangle is equilateral, isosceles or obtuse.

*Note: Equilateral means all sides are equal, isosceles means two of the sides are equal but not the third one, obtuse means all 3 are different.*

1. Now include a check at the beginning to see whether the lengths of the sides satisfy the triangle inequality.

*Note: The inequality states that every side of the triangle is shorter than the sum of the remaining two.*

1. Write a program to check if a year is leap year or not.

*Note: If a year is divisible by 4 then it is leap year but if the year is century year like 2000, 1900, 2100 then it must be divisible by 400.*

1. Ask user to enter age, sex ( M or F ), marital status ( Y or N ) and then using following rules print their place of service.

* If employee is female, then she will work only in urban areas.
* If employee is a male and age is in between 20 to 40 then he may work in anywhere
* If employee is male and age is in between 40 t0 60 then he will work in urban areas only.
* If any other input of age should print an appropriate error message