

Plan an algorithm using pseudocode for each question before you start to write your code.

1. Write the program for this piece of pseudocode:

```
GET hours
GET rate

IF hours or rate is invalid
    DISPLAY error message
ELSE
    CALC wages (hours * rate)

    IF hours > 45
        CALC and ADD bonus 20% (wage + (wages * .2)
    ELSE IF hours > 40
        CALC and ADD bonus 15% (wage + (wages * .15)
    ELSE IF hours > 37
        CALC and ADD bonus 10% (wage + (wages * .1)

    DISPLAY wages
```

2. Write a program that will prompt the user to enter the time of day in Ireland and will display the equivalent time in New York (-5 hours), San Francisco (- 8 hours), Sidney (+10 hours). Input the time in 24 hour format. Your program should deal with invalid times.
3. In a triangle, the sum of any two sides must be greater than the third side. Write a program to input the length of the three sides and determine if they form a valid triangle.