Chapter 2 - How to write your first program

2.1 Student Registration

Create a program that allows a student to complete a registration form and displays a completion message that includes the user's full name and a temporary password.

Console:

```
Registration Form

First Name: Eric
Last Name: Idle
Birth Year: 1934

Welcome Eric Idle!
Your registration is complete!
Your temporary password is: Eric*1934
```

Specifications:

- The user's full name consists of the user's first name, a space, and the user's last name.
- The temporary password consists of the user's first name, an asterisk (*), and the user's birth year.
- Assume the user will enter valid data.

In [2]:
```
### CODE HERE ###
print("Registration Form")
firstName = str(input("\nFirst Name: "))
lastName = str(input("Last Name: "))
birthYear = str(input("Birth Year: "))
tempPass = firstName + "*" + birthYear

print("\nWelcome", firstName, lastName + "!", "\nYour registration is complete! \
      \nYour temporary password is:", tempPass)
```

```
Registration Form
Welcome Eric Idle!
Your registration is complete!
Your temporary password is: Eric*1934
```

2.2 - Pay Check Calculator

Create a program that calculates a user's weekly gross and take-home pay.

Console

```
Pay Check Calculator

Hours Worked: 35
Hourly Pay Rate: 14.50

Gross Pay: 507.5
Tax Rate: 18%
Tax Amount: 91.35
Take Home Pay: 416.15
```

Specifications:

- The formula for calculating gross pay is:

```
gross pay = hours worked * hourly rate
```

- The formula for calculating tax amount is:

```
tax amount = gross pay * (tax rate / 100)
```

- The formula for calculating take home pay is:

```
take home pay = gross pay – tax amount
```

- The tax rate should be 18%, but the program should store the tax rate in a variable so that you can easily change the tax rate later,

just by changing the value that's stored in the variable.

- The program should accept decimal entries like 35.5 and 14.25.
- Assume the user will enter valid data.
- The program should round the results to a maximum of two decimal places.

In [2]:
```
### CODE HERE ###
print("Pay Check Calculator\n")
hours = float(input("Hours Worked: "))
payRate = float(input("Hourly Pay Rate: "))

grossPay = hours * payRate
taxRate = 18
taxAmount = grossPay * (taxRate/100)
homePay = grossPay - taxAmount

print("\nGross Pay:", round(grossPay, 2), "\nTax Rate:", taxRate, "% \nTax Amount:", round(taxAmount, 2), \
    "\nTake Home Pay:", round(homePay, 2))
```

2.3 - Travel Time Calculator

Create a program that calculates the estimated hours and minutes for a trip.

Console

```
Travel Time Calculator

Enter Miles: 200
Enter Miles per Hour: 65

Estimated Travel Time
Hours: 3
Minutes: 5
```

Specifications

- The program should only accept integer entries like 200 and 65.
- Assume that the user will enter valid data.

Hint

- Use integers with the integer division and modulus operators to get hours and minutes.

In [3]:
```
### CODE HERE ###
print("Travel time Calculator")
miles = int(input("\nEnter Miles: "))
mph = int(input("Enter Miles per Hour: "))

hours = miles // mph
minutes = miles%mph

print("\nEstimated Travel Time", "\nHours:", hours, "\nMinutes: ", minutes)
```