In the following example, a while loop will allow user to repeatedly enter temperatures. A simple way for the user to indicate that they are done is to have them enter a nonsense temperature like -1000.

```python
temp = 0
while temp!=-1000:
    temp = eval(input('Enter a temperature (-1000 to quit): '))
    print('In Fahrenheit that is', 9/5*temp+32)
```

Look at the while statement first. It says that we will keep looping, that is, keep getting input and converting temperatures, as long as the temperature entered is not -1000. As soon as -1000 is entered, the while loop stops.

While – else: with the else statement we can run a block of code once when the condition no longer is true:

```python
i = 1
while i < 6:
  print(i)
  i += 1
else:
  print("i is no longer less than 6")
```

While – break: with the break statement we can stop the loop even if the while condition is true:

```python
i = 1
while i < 6:
  print(i)
  if i == 3:
    break
  i += 1
```

While – Continue: with the continue statement we can stop the current iteration, and continue with the next.

```python
i = 0
while i < 6:
  i += 1
  if i == 3:
    continue
  print(i)
```

Exercises

1. Write a program that outputs 100 lines, numbered 1 to 100, each with your name on it. The output should look like the output below.

```
1 Your name
2 Your name
3 Your name
4 Your name
...
100 Your name
```

2. Write a program that prints out a list of the integers from 1 to 20 and their squares. The output should look like this.

```
1 --- 1
2 --- 4
3 --- 9
...
20 --- 400
```

3. Write a program that uses a for loop to print the numbers 8,11,14,17,20,……,83,86,89.

4. Write a program that uses a for loop to print the numbers 100,98,96, …… ,4,2.

5. Write a program that uses a while loop to read integer positive number then print its digits.

6. What is the output of the following program:

```
c = 'y'
while c=='y':
    name = input("Enter Student Name: ")
    age = eval(input("Enter Student Age: "))
    c = input("Do you want to continue (y/n): ")
```

7. Use a while loop to print a triangle like the one below. Allow the user to specify how high the triangle should be.

```
*
* *
* * *
* * * *
```

8. Use a while loop to print an upside-down triangle like the one below. Allow the user to specify how high the triangle should be.

```
* * * *
* * *
* *
*
```

9. Use for loops to print a diamond like the one below. Allow the user to specify how high the diamond should be.

```
      *
    * * *
  * * * * *
* * * * * * *
  * * * * *
    * * *
      *
```