COMPSCI 111 / 111G

Mastering Cyberspace:
An introduction to practical computing

Programming with Python --
Conditions, loops and turtle graphics
Exercise 1

• Write a program that asks the user to enter a number of feet and a number of inches. The program should convert this to a length in meters (with decimal points)

• Note: 1 inch = 2.54 centimetres
  1 foot = 12 inches

• Sample Output:

Please enter the number of feet: 6
Please enter the number of inches: 0

6 feet and 0 inches
is equivalent to 1.8288 meters
```python
feet = int(input("Please enter the number of feet: "))
inches = int(input("Please enter the number of inches: "))

tot_inches = feet * 12 + inches
tot_cm = tot_inches * 2.54
tot_m = tot_cm / 100

print()
print(feet,"feet and",inches,"inches")
print("is equivalent to",tot_m,"meters")
```
Exercise 2

Write a program that asks the user to enter their age, and then prints out a ticket based on their age:

- Child tickets (below the age of 12) cost $5.00
- Adult tickets (age 12 or above) cost $9.99

The tickets should look like:

```
************          ************
Child Ticket         Adult Ticket
Price: $5.00         Price: $9.99
************          ************
```
Exercise 2

```python
age = int(input("Please enter your age: "))
ticket_border = "*" * 12

print(ticket_border)
if age < 12:
    print("Child Ticket")
    print("Price: $5.00")
else:
    print("Adult Ticket")
    print("Price: $9.99")
print(ticket_border)
```
Exercise 3

• Write a program that repeatedly asks the user to enter a number between 1 and 10 until the number they enter falls inside that range

• Sample output:

```
Please enter a number between 1 and 10: 0
Please enter a number between 1 and 10: 99
Please enter a number between 1 and 10: -1
Please enter a number between 1 and 10: 10
Well done
```
number = -1

while number < 1 or number > 10:
    number = int(input("Please enter a number between 1 and 10: "))

print("Well done")
Exercise: Polygon

• Write a Python program that draws a polygon. The program should prompt the user to enter the number of sides they want the polygon to have. Each side of the polygon should have a length of 100 units.
import turtle

sides = int(input("Please enter the number of sides: "))
count = 0

while count < sides:
    turtle.forward(100)
    turtle.left(360/sides)
    count = count + 1