# Worksheet 10b Programming Techniques Answers

1. Write a program that will ask for a student’s year group. No student can be in a year group above Y11 (if you have a sixth form, that doesn’t count).

yearGroup = int(input(“Enter your year group: ”))  
while yearGroup > 11:  
 print(“Invalid, cannot be bigger than 11.”)  
 yearGroup = int(input(“Enter your year group: ”))

1. Improve your program from Question 1 so that all students must be between Year 7 and Year 11 (inclusive).

yearGroup = int(input(“Enter your year group (between 7 and 11): ”))  
while yearGroup < 7 or yearGroup > 11:  
 print(“Invalid, must be between 7 and 11.”)  
 yearGroup = int(input(“Enter your year group: ”))

1. Write a program that will ask for a word with exactly six letters.

word = input(“Enter a word with exactly 6 letters: ”)  
while len(word) != 6:  
 print(“Invalid, word must be exactly 6 letters long.”)  
 word = input(“Enter a word with exactly 6 letters: ”)

1. Write a program that will ask for your favourite Star Wars film but will only accept one of the original films as a valid answer.

validAnswers = [“a new hope”,“the empire strikes back”,“return of the jedi”]  
film = input(“Enter the title of your favourite Star Wars film: ”)

film = film.lower() #convert user input to lowercase  
while film not in validAnswers:  
 print(“Invalid, film must be from the original trilogy.”)  
 film = input(“Enter the title of your favourite Star Wars film: ”)

print(“OK, good choice!”)

***(See program L10 PP star wars films.py)***

1. Write a guessing game that will randomly pick an integer from 1 to 10. The user will need to guess until they get the correct answer.

import random  
target = random.randint(1,10)

print (“I have chosen a number between 1 and 10… you have to find it!”)  
guess = int(input(“Guess the number between 1 and 10: ”))  
while guess != target:  
 print(“Incorrect, try again!”)  
 guess = int(input(“Guess the number between 1 and 10: ”))

1. Write a validation routine that will ask for a car registration number in the format AA11 AAA.

import re  
reg = input(“Enter a registration number: ”)  
while not re.match(“[A-Z]{2}[0-9]{2} [A-Z]{3}”,reg):  
 print(“Invalid, try again!”)  
 reg = input(“Enter a registration number: ”)  
  
***See Program L10 WS10b Ex6.py***