# Worksheet 10c Programming techniques Answers

1. Create 4 procedures – each one should tell a bad joke.

def jokeOne():  
 print(“What did the man say when he walked into a bar?”)  
 print(“OW!”)  
  
def jokeTwo():  
 print(“What do you call a dinosaur with glasses?”)  
 print(“A dooyouthinkhesaurus!”)  
  
# etc…

1. Add a menu system at the bottom of your program that will ask the user to enter a number between 1 and 4 and then use an if…elif block to call the correct procedure.

choice = int(input(“Enter a number between 1 and 4: ”))  
if choice == 1:  
 jokeOne()  
elif choice == 2:  
 jokeTwo()  
elif choice == 3:  
 jokeThree()  
elif choice == 4:  
 jokeFour()

1. Add some validation before running the if…elif block in case the user types in an invalid number.

choice = int(input(“Enter a number between 1 and 4: ”))  
while choice not in (1,2,3,4):  
 print(“Invalid choice, try again.”)  
 choice = int(input(“Enter a number between 1 and 4: ”))  
if choice == 1:  
 jokeOne()  
elif choice == 2:  
 jokeTwo()  
elif choice == 3:  
 jokeThree()  
elif choice == 4:  
 jokeFour()

1. Finally, put the whole menu into a loop so that it will repeat until the user enters a 0. It will be necessary to set a value for the user entry first in order to run that loop.

choice = 9  
while choice != 0  
 choice = int(input(“Enter a number between 1 and 4: ”))  
 while choice not in (0,1,2,3,4):  
 print(“Invalid choice, try again.”)  
 choice = int(input(“Enter a number between 1 and 4: ”))  
 if choice == 1:  
 jokeOne()  
 elif choice == 2:  
 jokeTwo()  
 elif choice == 3:  
 jokeThree()  
 elif choice == 4:  
 jokeFour()  
print(“Goodbye!”)

input(“Press Enter to exit: ”)

1. Create a program with four procedures – one each for adding, subtracting, dividing and multiplying two numbers (and printing out the result). Each procedure should expect to be passed two numbers. The main program should ask for two numbers and then give the user a menu for which procedure they want to run. The menu should validate the user’s choice and should repeat until the user enters 0.

def add(numOne,numTwo):  
 result = numOne + numTwo  
 print(“The result of adding is”, result)  
  
def sub(numOne,numTwo):  
 result = numOne - numTwo  
 print(“The result of subtracting is”, result)  
  
def div(numOne,numTwo):  
 result = numOne / numTwo  
 print(“The result of dividing is”, result)  
  
def mult(numOne,numTwo):  
 result = numOne \* numTwo  
 print(“The result of multiplying is”, result)  
  
choice = 9  
while choice != 0:  
 print(“Do you want to:”)  
 print(“1. Add two numbers”)  
 print(“2. Subtract two numbers”)  
 print(“3. Divide two numbers”)  
 print(“4. Multiply two numbers”)  
 print(“0. Quit”)  
 choice = int(input(“Enter your choice: ”))  
 while choice not in (0,1,2,3,4):  
 print(“Invalid choice. Choose 1-4 or 0 to quit.”)  
 choice = int(input(“Enter your choice: ”))

if choice !=0:

numOne = int(input(“Enter the first number: ”))  
 numTwo = int(input(“Enter the second number: ”))  
 if choice == 1:  
 add(numOne,numTwo)  
 elif choice == 2:  
 sub(numOne,numTwo)  
 elif choice == 3:  
 div(numOne,numTwo)  
 elif choice == 4:  
 mult(numOne,numTwo)

***(See program L10 WS10c Ex5.py)***