**Homework 4: Introducing functions**

1. Which **two** of the following statements are correct? [2]

⬧ Functions are blocks of code that can easily be reused

⬨ Functions make your code longer and more complex

⬨ Functions are essential and every computer program must include at least one

⬧ Functions can make it easier and quicker to update a program in the future

2. Examine the following code:

def addNumbers():

num1 = int(input(“Enter first number: ”))

num2 = int(input(“Enter first number: ”))

print(“Total =”, num1 + num2)

def squareNumber():

num = int(input(“Enter a number: ”))

print(“Number squared =”, num \* num)

**(D)**

print(“============”)

print(“Main Menu”)

print(“1. Add two numbers”)

print(“2. Square a number”)

print(“3. Quit”)

def quitMessage():

print(“Goodbye!”)

# MAIN METHOD

choice = 0

while choice != 3:

displayMenu()

choice = int(input(“Enter your choice: ”))

if choice == 1:

**(A)**

elif choice == 2:

**(B)**

elif choice == 3:

**(C)**

else:

print(“Error, invalid choice”)

(a) Write the piece of code that should appear at the point marked **(A)** [1]

addNumbers()

(b) Write the piece of code that should appear at the point marked **(B)**  [1]

squareNumber()

(c) Write the piece of code that should appear at the point marked **(C)** [1]

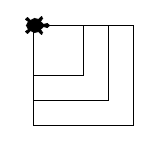
quitMessage()

(d) Write the piece of code that should appear at the point marked **(D)** [1]

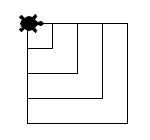
def displayMenu()

3. Examine the following code, part of a turtle drawing program:

def square(size):  
 for counter in range(4):  
 turtle.fd(size)  
 turtle.rt(90)  
  
def shape(sides):  
 for counter in range(sides):  
 turtle.fd(100)  
 turtle.rt(360/sides)  
  
# MAIN METHOD  
  
square(100)  
square(75)  
square(50)



1. Write one more line of code that would produce the following output [1]

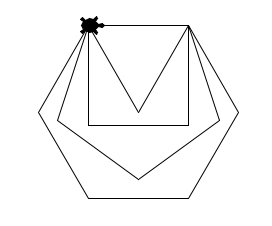


square(25)

(b) Write line of code that would produce a hexagon (six sided shape) [1]

shape(6)

(c) Write the main method that would produce the following shape [4]



shape(3)  
shape(4)  
shape(5)  
shape(6)  
  
**One** mark per line  
Allow these in any order  
Allow the following answer:  
  
for counter in range(3,7):  
 shape(counter)

[Total 12 marks]