CPSC 230 – Computer Science I

Sample

Examination I

This examination is closed book and notes. There are 9 problems and 70 points possible. You have 75 minutes to earn as many points as you can. Good luck!

**1.** **(5 Points)** Convert the following to binary/decimal as specified:

1. 125 to binary

1111101

1. 56 to binary

111000

1. 1024 to binary
2. 111110 to decimal
3. 1000101 to decimal

**2. (10 points)** Write a Python module that prompts the user for his/her hourly salary and the number of hours worked per week. If the **YEARLY** salary is greater than $100,000 the program should display “YOU’RE RICH!” otherwise it should print “KEEP SHOOTING FOR THE STARS!”

**3. (10 points)** Create a program that asks the user to enter their name and their age. Print out a message addressed to them that tells them the year that they will turn 100 years old.

**4. (15 points)** Keep asking the user for a number. Depending on whether the number is even or odd, print out an appropriate message to the user. Ask the user to type “quit” to quit, keep asking if the user doesn’t type “quit” .

**5. (10 points)** Write a python module that prompts the user for radius of a cone and its height and prints the volume of that cone (Volume = 1/3πhr2). Use the value of PI provided by the math module.

**6. (15 points)** If the following program is executed, what is the output? explain what’s happening.

a = 0

b = 1

limit = 0

while limit < 10:

if limit == 0:

print ("1")

f\_int = a + b

print(f\_int)

a = b

b = f\_int

limit += 1

if limit > 7:

break