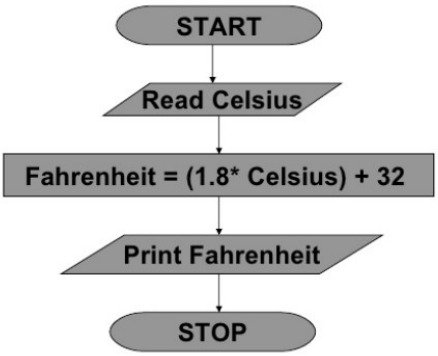
CSE101 – Midterm Exam 1

20-Sep-2018 **Total points: 50**

Name: _____ Student ID # _____

Instructions: Read the questions carefully before attempting to write the answer. Write the answers in the space provided below each question. Use of pencil is encouraged, so that you can erase and overwrite. Make sure that your handwriting is legible. Rough work sheet is provided at the end of answer sheet – which is to be used only for rough work, not for writing answers.

1. Given the following flowchart, write a small piece of Python code (without using function) to convert temperature from Celsius to Fahrenheit. The Python code should be accurate and should compile and run successfully. (6 marks)



2. What is the output of the following print() statements? (1 mark each, 5 marks)

   print(18 + 3 * 5 ** 3 / 2) _____

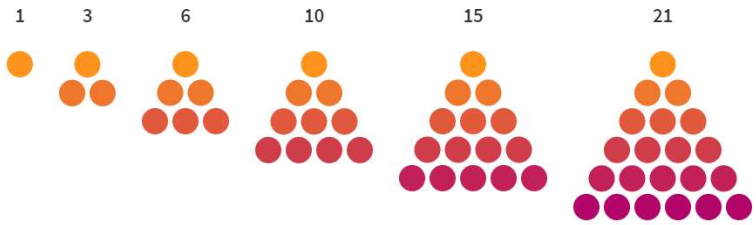
   print('Result: ', 56//2 + 100 ** 0.5/4) _____

   print('@*$' * 3 + '%' * 4) _____

   print(eval("51 + (54 * (3 + 2))")) _____

   print(round(10.51)) _____

3. The **triangle numbers series** is generated by creating triangles of progressively larger size:



Write a function with the following definition to return a list of n elements in a triangle number series where n is the number of terms in a series. E.g. triangleSeries(6) should return a list [1, 3, 6, 10, 15, 21]. (10 marks)

def triangleSeries(terms):

4. Create a flowchart for the interactive voice response program that receives user call, askes user for input and transfers calls to appropriate department depending on the user input 1, 2, 3 or 4. The departments to be connected are: input 1 -> Sales (ext. 2203), input 2 -> Service (ext. 2015), input 3 -> Human Resources (2145), input 4 -> General helpdesk (ext. 2217). If the user presses inputs other than 1 – 4, the program asks user for valid input and continues till the user has entered valid input. (6 marks)

5. What is the output of the following? (3 marks)

```
x = ['ab', 'cd']
for i in x:
   x.append(i.upper())
print(x)
```

Answer: _____

6. What is the output of the following? (3 marks)

```
i = 1
while True:
   if i%2 == 0:
   break
   print(i)
   i += 2
```

Answer: _____

7. What is the output when following statement is executed? (2 marks)

```
>>>"abcd"[2:]
```

Answer: _____

8. What is the output when following code is executed? (2 marks)

```
>>> str1 = 'hello'
>>> str2 = ','
>>> str3 = 'world'
>>> str1[-1:]
```

Answer: _____

9. When executed what would the following script print? (4 marks)

```
def func1():
   print("*")
   func2()
   print("@")
def func2():
   print("**")
   func3()
   print("@@")
def func3():
   print("$$")
def main():
   func2()
   func1()

main()
```

Answer:

10. Circle appropriate choice. Given a function that does not return any value, What value is thrown by default when executed in shell. (1 mark)

    a) int
    b) bool
    c) void
    d) None

11. L = [1, 23, ?, 1]. L is a list. Consider the following items. Which is valid? (1 mark)

    a) L = [1, 23, 2, 1]
    b) L = [1, 23, ‘a’, 1]
    c) L = [1, 23, [1, 23, 1], 1]
    d) All of above

12. Which of the following will run without errors (multiple answers possible)? (1 mark)
    a) round(45.8)
    b) round(6352.894,2)
    c) round()
    d) round(7463.123,2,1)

13. Which of the following results in a SyntaxError (Multiple answers possible)? (1 mark)
    a) print('"Once upon a time…", she said.')
    b) print('3”)
    c) print ("'That's okay'")
    d) print("He said, "Yes!"")

14. What is the output of print list[2:] if list = ['abcd', 786 , 2.23, 'john', 70.2]? (1 mark)
    a) ['abcd', 786 , 2.23, 'john', 70.2]
    b) abcd
    c) [786, 2.23]
    d) [2.23, 'john', 70.2]

15. Which of the following function convert an integer to a character in python? (1 mark)
    a) set(x)
    b) dict(d)
    c) frozenset(s)
    d) chr(x)

16. How do you define algorithm? Given three numbers, write an algorithm to display highest number. (3 marks)