ID NUMBER: 662903

IST 1025: INTRODUCTION TO PROGRAMMING
END-SEMESTER EXAM
12th August 2021, 9:00 – 11:00 (2 hours)

Instructions **Total Marks: 30**

1. Answer Question One on Blackboard.
2. Answer Questions Two and Three in this document and submit in **PDF**.
3. Paste screenshots of your programs and output in the spaces indicated.

Question One [14 Marks]

This question will be done as a test on Blackboard.

Question Two [8 Marks]

Consider the following program.

```
1  import pi
2
3  def main:
4      radius = input(float("Enter the radius: "))
5      area = math.pi * radius ** 2
6      print("The area is", area, "square units")
7
8  if __name__ == "main":
9      main()
```

a) Identify the line number where there are errors and write down the correction. [4 Marks]
Line 1: import pi **Correction:** from math import math
Line 4: input(float("Enter the radius"). **Correction:** float(input("Enter the radius")
Line 3: def main **Correction:** def main ()
Line 8: if __name__ == "main" **Correction:** if __name__ == "__main__"

a) Explain the purpose of lines 8 and 9. [2 Marks]
Is used to execute some code only if the file was run directly, and not imported

b) Write down a modified line 6 so that it uses an f-string and rounds the output to two decimal places. [2 Marks]

print("The area is", f'{area: .2f}', "square units")

Question Three [8 Marks]

a) Using the lists **mark_ranges = ['90-100', '80-89', '70-79', '60-69', '0-59']** and **grades = ['A', 'B', 'C', 'D', 'F']**, write a program that uses a **for loop** to create a dictionary where

each key comes from the **mark_ranges** list and its value comes from the same position in the **grades** list. Your dictionary might start out like this: **{'90-100': 'A', …}**. [4 Marks]

b) Add code to your program for part (a) to print out the contents of the dictionary so that the output looks like this: [4 Marks]

MARK	GRADE
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

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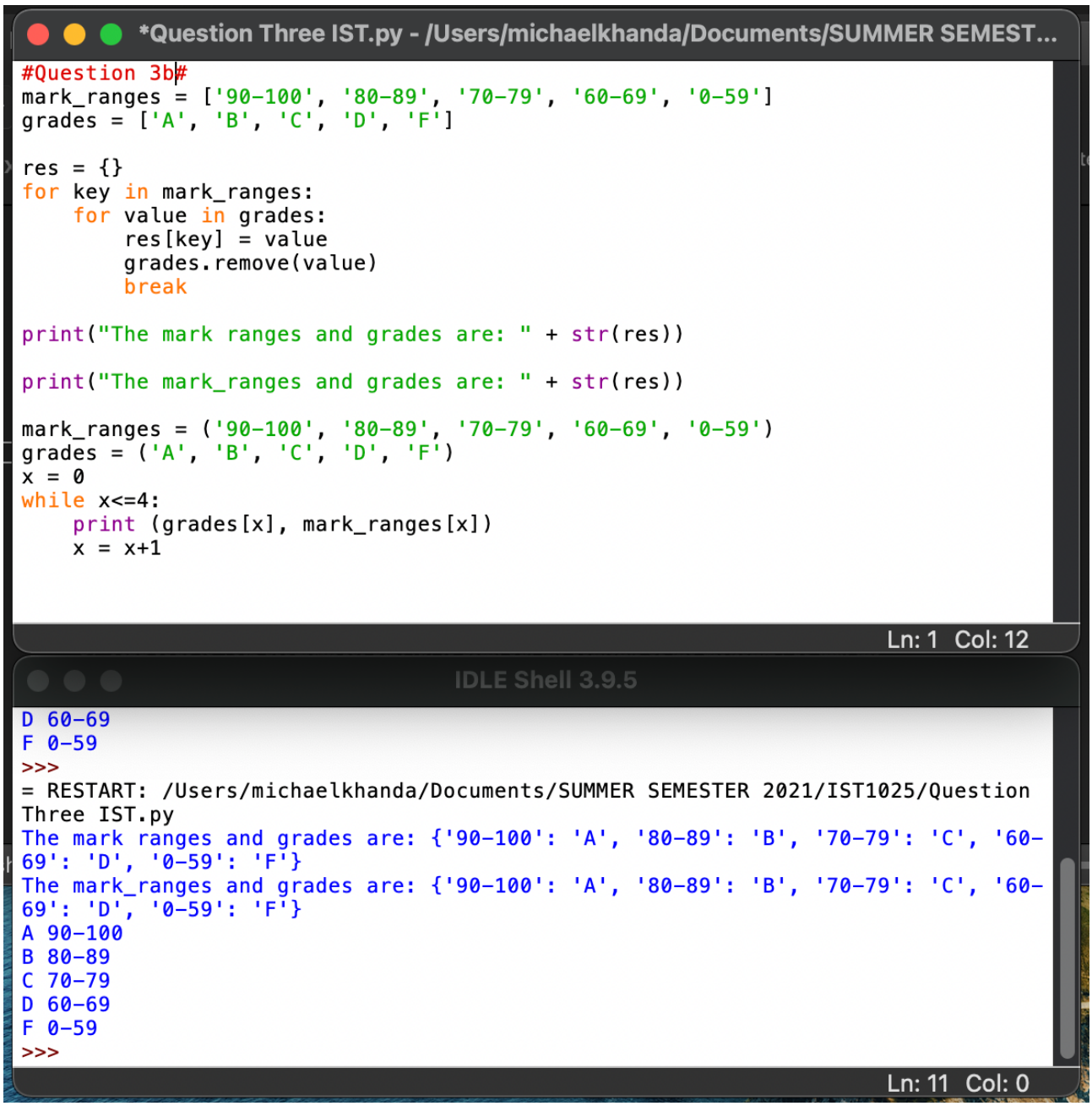

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