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| **CS4720 Internet Programming**  **Department of Computer Science**  **Kennesaw State University**  **Test2**  **Summer 2021**  **Tuesday, July 27, 2021 (till 11:59pm)**  **Full Marks: 100**  **There are 13 Questions for a total of 100 points.**  **Answer ALL the questions** |

**NAME: KSU NetID:**

***General Instructions***

* First, ensure you have all the 9 pages of this exam booklet even before starting
* This exam is closed notes and closed books. No discussions are permitted
* Do not bring out your cell phone; don’t answer the phone; don’t read text messages
* You have 3 hours to complete the exam
* Write your answers clearly
* The size of the space given for each answer is sufficient
* Write no more than 3-4 lines for each of the short questions
* Even if your final answers are incorrect, you will get partial credit if intermediate steps are clearly shown to highlight thought process. This applies to program tracing questions as well.

**DISCLAIMER:** By submitting the completed pdf file, you are pledged that you did not consult any one during the Exam time and everything was closed books and closed notes.

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| Good Luck! |

1. **[2 pt ]** What is the difference between floating point (/) division and integer division (//) ?

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1. **[3 pt ]** Use a for loop to print values of the list [3, 2, 1, 0]

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1. **[5 pt ]** This program is to do the following things.
   1. Let the user input the user id and password.
   2. Use the input id and password to connect to a database called courses.
   3. Output the number of students whose score is greater than 90. (hint: you may use the SQL command “select \* from grade where score>90”)

import **sqtile3**

i d=i nput ( ’ i d ’ )

password=input ( ’ password ’ )

db=sqlite3. connec t ( ‘NameOfYourDB’)

try :

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result= print ( result )

except :

print ( “Error ” )

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1. **[5 pt ]** Choose a number between 1 and 10 and assign it to the variable secret. Then, select another number between 1 and 10 and assign it to the variable guess. Next, write the conditional tests (if, else, and elif) to print the string ‘too low’ if guess is less than secret, ‘too high’ if greater than secret, and ‘just right’ if equal to secret.

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1. **[5 pt ] List Comprehension**

Use lists of numbers and strings to represent elements in the real world with great variety.

* 1. Create a list called years\_list, starting with the year of your birth, and each year thereafter until the year of your fifth birthday. For example, if you were born in 2000, the list would be years\_list = [2000, 2001, 2002, 2003, 2004, 2005]
  2. In which year in years\_list was your third birthday? Remember, you were 0 years of age for your first year.
  3. In which year in years\_list were you the oldest?

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6. **[10 pt ] Dictionary**

**6.1** Make an English-to\_french dictionary called **e2f** and print it. Here are your starter words: dog is chien, cat is chat, and walrus is morse.

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6.2 Using your three-word dictionary **e2f**, print the French word for walrus.

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7**. [10 pt ] Function**

Define a generator function called get\_odds() that return the odd numbers from range(10). Use a for loop to find and print the third value returned.

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8. **[10 pt ] Module**

**8.1** Create a file called *zoo.py*. In it, define a function called hours() that prints the string ‘Open 9-5 daily’. Then, use the interactive interpreter to import the zoo module and call its hours() function.

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8.2 Import the hours() function as info ad call it.

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9. **[15 pt ] Database sqlite3**

9.1 Use the sqlite3 module to create a SQLite database called *books.db* and a table called books with these fields: title (text), author (text), and year (integer)

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9.2 Select and print title column from the book table in alphabetical order.

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9.3 Select and print all columns from the book table in order of publication.

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10. **[5 pt ] CGI/WSGI**

A. What do you understand by CGI and WSGI?

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B. Write a short note on HTTP GET vs POST method in support of HTML Form ACTION

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11**. [5 pt ] JSON**

Write a program that prompts for the user’s favourite number. Use json.dump() to store this number in a file. Write a separate program that reads in this value and prints the message, “I know your favourite number!. It’s -------”.

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12. **[10 pt ] Misc**

12.1 Write a short note on Web API and REST

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12.2 Share your experience how did you install and configured PyCharm, Django and Flask

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13. **[15 pt ] Dijango**

1. What is Django and how do you use it?

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1. What is the role of Python using Django?

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1. Explain what is Model View Template (MVT) architectural pattern.

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1. What are the features available in Django web framework?

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1. Explain the advantages of Django

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