Python

Module 1 Lesson 11

Name: Date:

Exercise 1

Question 1

Use python string slicing to come up with a code to print ‘python’ from the variable “code” below.

code = “yupythonpy”

Hint: Recall how to inverse

Question 2

Use python string slicing to come up with a code to print ‘PYTHON IS FUN’ from the variable “Name” below.

Name = “PABYBCTCDHDEOEFNFGIGHSHIFIJUJKN”

Hint: Recall how to Step

Question 3

Use python string slicing with negative indexes to come up with a code to print ‘Sir’ from the variable “Call” below.

Call = “Good morning Sir”

Hint: Recall negative indexing

Question 4

Use python string slicing with negative indexes to come up with a code to print ‘Benedict’ from the variable “Call” below.

Call = “Hello my name is Benedict”

Hint: Recall negative indexing

Question 5

Use python string slicing to come up with a code to print ‘i am smart” from the variable “Name” below.

Name = “aipamismart”

Python

Module 1 Lesson 11

Name: Date:

Exercise 1

Question 6

Use python string slicing to split up the sentence “Sir Morning Good” into 3 words and rearrange them into “Good Morning Sir”

Hint: Store the individual words into 3 different variable and print it in order

Question 7

Use python string slicing to decipher the code by jumping by 3.

Code = “jcPmnAnxSkdSlcWleOlkRldD”

Question 8

Use python string slicing to leave out ‘M’ from MEAN”. (Hint: Your output should be “EAN”)

Question 9

Use python string slicing to print “BWB” from “Black White Brown”.

Question 10

Use python string to leave out the “Not” from “Not Python is fun”. (Hint: Your output should be Python is fun)

Question 11

Sequence = “ABCDEFGHIJKL”. Use Python with string slicing to display:

- Every letter after A
- Every letter before H
- Every 2nd letter
- Every 3rd letter after starting from the 5th letter – E,H,K
- Sequence = “ABCDEFGHIJKL”. Use Python to display every vowel in the string.

Python

Module 1 Lesson 11

Name: Date:

Exercise 1

Question 12

Consider a large number N= “123456789101112131415161718192O”. Use Python and string slicing to display:

- Index 4 in steps of 2
- Index 5 to 9 inclusive
- Inverse index -1 to 5 inclusive
- Every number not between the two “6”s
- The remainder when N / 3

Name: Date:

Exercise 2

Question 1

Use Python to solve the following equations:

- 27 + 64
- 119 - 27
- 11 x 13
- 256 / 4
- 16 x (3 + 1) x 9
- 20 % 9 *(Remainder)*

Print the answer in the form "The result of **(equation)** is **(answer)**"

Question 2

Given A= "ABCDEFGH……UVWXYZ", Use Python string slicing to print the following information:

- Every alternate letter of the alphabets backwards, in the form "**Z,X,V,T,R,P…..**"

Question 3

Given a date in the format "MM/DD/YYYY HH:MM" (e.g. "05/01/2012 23:59")

Use Python string slicing to print the date in the following formats:

- **DDMMYY**
- **DD/MM/YY**
- **DD** – **HH** : **MM**
- "The time now is **HH** : **MM**"

Question 4

Use Python to display the data type of X when X is:

- 10
- 2.0
- "A potato"
- 'Z'

Question 5

Define a function with the arguments a=1, b=3, c=7, d=13 and e=18. Use Python to solve:

- a + b
- e - c
- c x d
- e / b
- (d x e) / (a +c)

Python

Module 1 Lesson 11

Name: Date:

Exercise 3

Question 1:

What will be the output to the code below? Explain your answer

```
1  x=50
2  def f1():
3      global x
4      print("x is ", x)
5      x=2
6      print ("Changed global x to" ,x)
7
8  f1()
9  print("Value of x is", x)
```

Hint: Recall Keyword Arguments and Default Arguments

a.

```
1  x is 50
2  Changed global x to 2
3  Value of x is 50
```

b.

```
1  x is 50
2  Changed global x to 2
3  Value of x is 2
```

c.

```
1  x is 50
2  Changed global x to 50
3  Value of x is 50
```

d.

```
1  x is 2
2  Changed global x to 2
3  Value of x is 50
```

Name: Date:

Exercise 3

Question 2:

What will be the output to the code below? Explain your answer

```
1  def f1(a,b=5,c=10):
2      print("a is ", a, "and b is" , b "and c is", c)
3
4  f2(3,7)
5  f2(25, c=24)
6  f2( c=50,a=100)
```

Hint: Recall Keyword Arguments and Default Arguments

a.

```
1  a is 7 and b is 3 and c is 10
2  a is 25 and b is 5 and c is 24
3  a is 5 and b is 100 and c is 50
```

b.

```
1  a is 3 and b is 7 and c is 10
2  a is 5 and b is 25 and c is 24
3  a is 50 and b is 100 and c is 5
```

c.

```
1  a is 3 and b is 7 and c is 10
2  a is 25 and b is 5 and c is 24
3  a is 100 and b is 5 and c is 50
```

d.

```
1  a is 7 and b is 3 and c is 10
2  a is 25 and b is 5 and c is 24
3  a is 100 and b is 5 and c is 50
```

Name: Date:

Exercise 3

Question 3:

What will be the output to the code below? Explain your answer

```
1  def f1(num1, num2, num3):
2      print("Num1:", num1)
3      print("Num2:", num2)
4      print("Num3:", num3)
5  f1(num3=24, num2=16, num1=8)
```

Hint: Recall Keyword Arguments

a.

```
1  Num1: 24
2  Num2: 16
3  Num3: 8
```

b.

```
1  Num1: 16
2  Num2: 24
3  Num3: 8
```

c.

```
1  Num1: 8
2  Num2: 16
3  Num3: 24
```

Name: Date:

Exercise 3

Question 4:

What will be the output to the code below? Explain your answer

```
1  num = 100
2  def update():
3      num = 500
4      print("Value of num in function is", num)
5  update()
6  print("Value of num outside of function is", num)
```

Hint: Identify which line of code is the num global and the num local. Recall Global & Local.

a.

```
1  Value of num in function is 500
2  None
3  Value of num outside of function is 500
```

b.

```
1  Value of num in function is 100
2  None
3  Value of num outside of function is 500
```

c.

```
1  Value of num in function is 100
2  Value of num outside of function is 100
```

d.

```
1  Value of num in function is 500
2  Value of num outside of function is 100
```

Python

Module 1 Lesson 11

Name: Date:

Exercise 4

Question 1 – Use functions to solve the questions below.

Define a function	with keyword arguments	call the function	with the output
Student	Name	Bob	Student Name: **Bob** Age = **9** Level **3**
	Age	9	
	Level	3	
Fruit	Name	Apple	The **Red Apple** costs **5** dollars
	Colour	Red	
	Cost	5	
Bubble Tea	Tea	Oolong	**Oolong** tea, **200**% sugar level and **Black Pearls**
	Sugar	200	
	Pearls	Black Pearls	
Character	Strength	15	The Character has **15** Strength, **17** Dexterity and **14** Wisdom
	Dexterity	17	
	Wisdom	14	
IPPT	Push Ups	60	In order to get Gold, one must have **60** push ups, **60** sit ups and run **10.10**
	Sit Ups	60	
	Run	10.10	

Hint: Bold words in the output column are the variable data.

Question 2 (Challenging)

Define a function	with keyword arguments	call the function	with the output
Classroom	numOfGirls	23	There are **23** girls and **10** boys in the class. The total number of students is **33**
	numOfBoys	10	
Fruit	Name	Mango	The total cost of **5 Mango** is $**10**
	Quantity	5	
	Cost	2	

Hint: Bold words in the output column are the variable data.

Name: Date:

Exercise 5

Question 1

Create a function named **avgspeed** with 2 inputs **distance** and **time**. The function **avgspeed** returns **distance** divided by **time**. Create a complex function **find_speed** that uses the **avgspeed** function to calculate the average speed for the following cars. Print your answer in the format:

"For Car ___ the average speed is ___ m/s."

Car	Distance	Time
A	60	60
B	12825	1425
C	585	39

John is interested in buying a car. He wants to know how far each car can go within 123 seconds. Using the **avgspeed** function above, write another complex function **distance_in_123** to find the distance each of the 3 cars can cover in 123 seconds. Print your answer in the format:

"Car __ can cover ___ m in 123 seconds."

Hint: Create 1 helper function, avgspeed, to calculate average speed i.e average_speed = distance / time. Create 1 composite function, find_speed, to calculate average speed of following cars: A, B, C.

Question 2

Kimberly wants to find the total distance of her road trip. She has compiled the amount of time and the average speed of her journey in the table below. Write a function named **totaldistance** with 2 inputs, **time** and **speed**. Using the function, calculate how far she has travelled in total during her road trip.

Travel Points	Time	Speed
A to B	2 hours	60 km/hr
B to C	5 hours	50 km/hr
C to D	3 hours	65 km/hr
D to E	2 hours	58 km/hr

Print the total distance she has travelled in the following format:

"Kimberly has travelled ___ meters in total."

Hint: 1000 meters = 1 kilometres

Name: Date:

Exercise 5

Question 3

James is interested in converting the speed of some cars. However, he only has their speed in km/hr. Write a function to help him convert the speed to m/s. Use this function to find the speed of the following cars:

Car	Speed (km/hr)
A	50 km/hr
B	62 km/hr
C	71 km/hr

Hint: Define a function named toMetrePerSecond() with input speed(km/hr) where the function uses the following ratios to convert the metrics: 1 m/s = 60 m/min = 3600 m/hr = 3.6 km/hr