# Review Test Submission: Midterm Exam

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|---|---|
| User | |
| Course | 202-ICS-104 (Intro. to Prog. in Python & C) [Common: ALL Students] |
| Test | Midterm Exam |
| Started | 3/16/21 7:00 PM |
| Submitted | 3/16/21 8:26 PM |
| Due Date | 3/16/21 8:30 PM |
| Status | Completed |
| Attempt Score | 84.6668 out of 90 points |
| Time Elapsed | 1 hour, 26 minutes out of 1 hour and 30 minutes |
| Results Displayed | All Answers, Submitted Answers, Correct Answers |

## Question 1

2 out of 2 points

For the following Python code fragment:

```
price = int(input("Enter a value of price: "))
if (1 < price < 7) :
    item = "drink"
elif (5 < price < 15) :
    item = "fries"
elif (10 < price < 20) :
    item = "ice cream"
else :
    item = "happy meal"
```

Which value(s) of the variable `price` produce(s) the `item` "ice cream"? Choose ALL correct answers

Selected Answers:
- ✓ 16
- ✓ 19

Answers:
- 10
- ✓ 16
- 12
- 14
- ✓ 19

## Question 2

2 out of 2 points

**Select all correct statements for the following Python code**

```
a = 5
b = 3
if (a<10):
    print("pass2")
    b = b + 10
if (b<a):
    print("pass1")
```

Selected Answers:
- ✓ the program will run without any errors
- ✓ the output is "pass2"

Answers:
- the output is "pass1"
- the program will produce an error
- ✓ the program will run without any errors
- ✓ the output is "pass2"
- value of variable (b) cannot be changed in the body of an if statement

**Question 3**

2 out of 2 points

After executing the following 3 python statements, what do x and y represent?

sec = 7867 # this number represent number of seconds

x = sec // (60*60)

y = sec % (60*60)

Selected Answer:
- ✓ y will have the seconds remaining after removing the hours x.

Answers:
- x will have number of hours in these seconds (sec).
- ✓ y will have the seconds remaining after removing the hours x.
- y will have number of minutes in these seconds (sec).
  x will have the seconds remaining after removing the minutes y.
- y will have number of hours in these seconds (sec).
- x will have the seconds remaining after removing the hours y.
- x will have number of minutes in these seconds (sec).
  y will have the seconds remaining after removing the minutes x.

## Question 4

2 out of 2 points

Consider the following assignment statement:

```
myString = "ThisIsNumberEighty"
```

where the string myString does not contain any spaces.
The index of the character "g" in myString is

Selected Answer: ✔ len(myString) – 4

Answers:
- len(myString) – 1
- len(myString) – 5
- len(myString) – 3
- len(myString) – 2
- ✔ len(myString) – 4

## Question 5

2 out of 2 points

Assuming that the user provides **PHYS261Energy** as input, what will be the value of the variable title after executing the following code snippet :

```
title= input("Enter a string: ")
x = title.lower()
```

Selected Answer: ✔ PHYS261Energy

Answers:
- physenergy
- nergy
- ✔ PHYS261Energy
- phys261energy

## Question 6

2 out of 2 points

What will be the result if you try to run the following python code?

```
w = 12
z = 0
if w != z or w/z > 0:
    print ("w = ", w)
else:
    print ("z = ", z)
```

Selected Answer: W = 12

Answers:
z = 0
None of the given answers is correct
Division by zero error message
Syntax error message
W = 12

## Question 7

4 out of 4 points

**What will be the exact output of the following python code if the user enters -5 for num1 and -3 for num2 ?**

```
num1 = int(input("Enter a non-zero integer number: "))
num2 = int(input("Enter another non-zero integer number: "))
num = num1 * num2
if num > 0:
    if num1 < 0:
        sign = "NN"
        if num % 2 == 1:
            numbers = "OO"
        else:
            numbers = "EE/EO/OE"
    else:
        sign = "PP"
        numbers = "EE/EO/OE/OO"
else:
    sign = "NP/PN"
    numbers = "OO/OE/EO/EE"
print ("Signs are",signs,"Numbers are", numbers )
```

Selected Answer: Signs are NN Numbers are 00

Correct Answer:

| Evaluation Method | Correct Answer | Case Sensitivity |
|---|---|---|
| *Exact Match* | Signs are NN Numbers are OO | *Case Sensitive* |
| *Exact Match* | Signs are NN Numbers are 00 | *Case Sensitive* |
| *Pattern Match* | .*NN. *OO | |

| | |
|---|---|
| Pattern Match | .*NN.* 00 |

## Question 8

2 out of 2 points

**Select the correct option based on the below python code.**

```
x = 20
y = 10

if (y ** 3 > 100 and x / 2 <= 100):
    print("first block is executed")
elif (x // 2 > 100 or y > 100):
    print("second block is executed")
else:
    print("third block is executed")
```

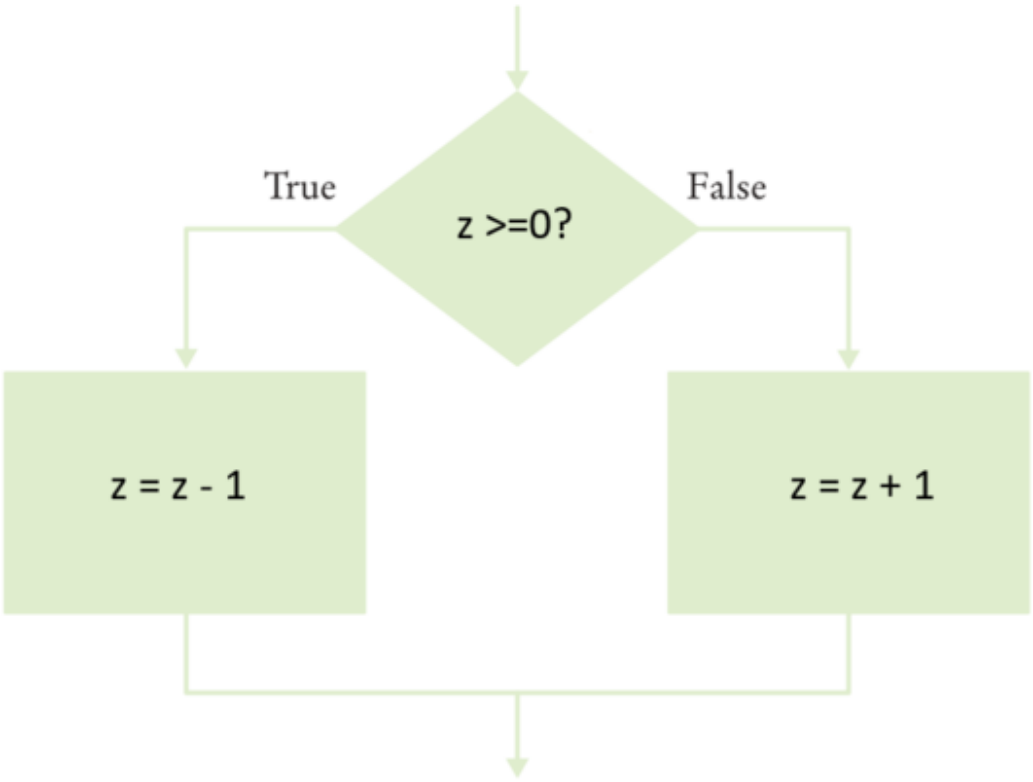
Selected Answer: Program will print "first block is executed".

Answers:
- Program will print "first block is executed".
- Program will give syntax error.
- Program will print "second block is executed".
- Program will print "third block is executed".

## Question 9

2 out of 2 points

Which of the the code fragments below corresponds to the following flowchart?




Selected Answer:
```
if z >= 0 :
    z = z - 1
else:
    z = z + 1
```

Answers:
```
if z > 0 :
    z = z + 1
else:
    z = z - 1
```

```
if z >= 0 :
    z = z - 1
else:
    z = z + 1
```

```
if z <= 0 :
    z = z + 1
else:
    z = z - 1
```

```
if z > 0 :
    z = z - 1
else:
    z = z + 1
```

## Question 10

2 out of 2 points

What output is generated by the following code segment?

```
average = 40.51
print("The average is %4.1f" % average)
```

Selected Answer: The average is 40.5

Answers: The average is 040.5

The average is 0040.5

The average is 4051.0

✓ The average is 40.5

The average is 40.51

## Question 11

1.3334 out of 2 points

Which of the following are correct about the nested if statements? Choose ALL correct answers

Selected Answers:
- ✗ The innermost else corresponds to the outermost if.
- ✓ An if statement within another if statement
- ✓ Used to implement multiple levels of decision making

Answers:
The innermost else corresponds to the outermost if.

The condition of the inner if is always tested, regardless of the evaluation of the condition of the outer if.
- ✓ An if statement within another if statement
- ✓ Used to implement multiple levels of decision making

When the condition of the outer if is evaluated to True, no further test will be performed.

## Question 12

4 out of 4 points

What will be the output of the following code fragment?

```
x = 54
y = 46

if 2 * x < x + y:
    print(y)
elif x - y / 2 == 0:
    print(x)
else:
    print(x - y)
```

Selected Answer: ✓ 8

Correct Answer: ✓ 8

Answer range +/- 0 (8 - 8)

## Question 13

0 out of 0 points

Write a Python code fragment that asks the user to input a number, and then stores it as a floating point.

Selected Answer:
```
num = input("Enter a number: ")
num = float(num)
```

Correct Answer:

num = input(Enter a number: ")
floatNum = float(num)

OR

floatNum = float(input("Enter a number: "))

## Question 14

2 out of 2 points

_____ is the equivalent mathematical notation of the following Python expression:

```
k = sqrt(n + g*sqrt(m**2/c + 32.3)/(1+c**2))
```

Selected Answer:

$$k = \sqrt{n + g\frac{\sqrt{\frac{m^2}{c} + 32.3}}{1+c^2}}$$

Answers:

$$k = \sqrt{n + g\frac{\sqrt{\frac{m^2}{c+32.3}}}{1+c^2}}$$

$$k = \sqrt{n + g\frac{\sqrt{\frac{m^2+32.3}{c}}}{1+c^2}}$$

$$k = \sqrt{n + g\frac{\sqrt{\frac{m^2}{c} + 32.3}}{1+c^2}}$$

$$k = \sqrt{(n + g)\frac{\sqrt{\frac{m^2}{c} + 32.3}}{1+c^2}}$$

## Question 15

2 out of 2 points

What is the output of the following Python code fragment?

```
print("20"*5)
```

Selected Answer: 2020202020

Answers: 100

2222200000

2020202020

An error is generated, since you cannot multiply a string with an integer.

200000

**Question 16**

2 out of 2 points

Suppose we have a string variable ***str*** and it contains the string value **'*Hero You*'.** Consider the code snippet below

```
str = str.replace('You', 'me')
print(str)
```

What ***print*** statement will show on the output cell?

Selected Answer: Hero me

Answers: Hero You

Hero meYou

Hero Youme

Hero me

**Question 17**

0 out of 2 points

Consider the following Python code
name = "Muhammad Abdullah Hashim"
id = 202012134
Choose the correct answer

Selected Answer: print(id.isdigit()) will display True

Answers: none of the given answers is correct

print(name.isalpha()) will display True

print(isalnum(id)) will display True

print(id.isdigit()) will display True

print(isalpha(name)) will display True

**Question 18**

2 out of 2 points

What will be the output of the following print statement

print('welcome to' + 'ICS', '104')

Selected Answer: ✓ welcome toICS 104

Answers:
welcome to ICS104
✓ welcome toICS 104
welcometoICS 104
welcometo ICS 104

## Question 19

2 out of 4 points

What is the output of the following code:

```
a = 3
b = 2
c = 4

z = 4//a-2*b**3/c%2%4
print("%d" %z)
```

Selected Answer: ✗ 1.0

Correct Answer:

| Evaluation Method | Correct Answer | Case Sensitivity |
|---|---|---|
| ✓ *Exact Match* | 1 | *Case Sensitive* |

## Question 20

2 out of 2 points

Consider the following code fragment:

```
x = 3
y = 4
print("%3d + 3d" % (x + y))
```

The output generated by this code segment is:

Selected Answer: ✓ | | 7 | + | 3 | d |

Answers:
✓ | | 7 | + | 3 | d |
| 7 | | | | | |
No output is generated due to an error
| | | | | | 7 |
| | | 3 | + | | | 4 |

## Question 21

2 out of 2 points

Which of the following is True:

Selected Answer: "365".isalnum()

Answers:
- isdigit(19)
- '19.8'.isdigit()
- none of the given answers is correct
- "365".isalnum()
- not isdigit(19)

## Question 22

2 out of 2 points

A string is stored in a variable called *str.*

The string starts with a number that is always 2 digits to the left of the decimal point and 2 digits to the right of the decimal point. For example:

str = "12.73 is the total"

Which of the following is the right way to extract the number and print it after multiplying it by 10.

Selected Answer:
```
str2 = str[0:5]
n = float(str2)
n2 = n * 10
print (n2)
```

Answers:
```
str2 = str[0:5]
n = int(str2)
n2 = n * 10.0
print (n2)
```
```
str2 = str[0:5]
n = float(str2)
n2 = n * 10
print (n2)
```

```
str2 = str[0:5]

n2 = float(n * str2)

print (n2)

str2 = str[0:4]

n2 = float(n * str2)

print (n2)
```

**Question 23**

2 out of 2 points

Which of the following are true regarding an algorithm (mark all answer parts that you believe are true):

Selected Answers:
- Can be represented using a flow chart
- Can be translated into Python code

Answers:
- Can be represented using a flow chart

A general and abstract sequence of steps that leads to a useful interpretation of the data

Can be executed using Jupytor
- Can be translated into Python code

**Question 24**

2 out of 2 points

What is the expected output printed after executing the following Python code fragment?

```
firstName = "Ahmad"
middleName = "Saleem"
lastName = "Abdullah"
print("The full name is",firstName+middleName+lastName)
```

Selected Answer:
- The full name is AhmadSaleemAbdullah

Answers:
- The full name is AhmadSaleemAbdullah

The full name isAhmad SaleemAbdullah

The full name is Ahmad Saleem Abdullah

The full name is AhmadSaleem Abdullah

**Question 25**

0 out of 0 points

Write one if statement with a condition using logical operators to check if a certain day is not a weekend.

**Notes:**

Weekdays are Sunday through Thursday

Weekends are Friday and Saturday

use the variable today in your condition

Selected Answer:

```
if today != "Friday" or  today != "Saturday" :
        print("day is not a weekend")
```

Correct Answer: ✓ if not (today=="Friday" or today=="Saturday"):

## Question 26

2 out of 2 points

Consider the following Python code
a="Muhammad Abdullah Hashim"
b="Muhammad"
Choose the correct answer

Selected Answer: ✓ print(a[0:8] in b) will display True

Answers:

print(b in a[1:8]) will display uhammad

✓ print(a[0:8] in b) will display True

print(b in a[0:8]) will display False

print(a[0:8] in b) will display Muhammad

none of the given answers is correct

## Question 27

2 out of 2 points

For the following Python code fragment:

```
count = int(input("Enter a value of count: "))
if (count < 5) :
    result = count + 10
elif (count < 10) :
    result = count + 2
elif (count < 15) :
    result = count - 3
elif (count < 20) :
    result = count - 8
else :
    result = count // 2
```

Which value(s) of the variable `count` produce(s) a result of 10 in variable `result`? Choose ALL correct answers

Selected Answers: ✓ 20
✓ 0

Answers: ✓ 20
1
✓ 0
19
9

## Question 28

2 out of 2 points

_____ represents the following expression in Python:

$$F = \frac{\left(\frac{A+N}{B}\right)+G-1}{C^2} - M^2 \times B$$

Selected Answer: ✓ `F = ((A+N)/B + G - 1)/C**2 - M**2 * B`

Answers: ✓ `F = ((A+N)/B + G - 1)/C**2 - M**2 * B`
`F = (A+N)/B + G - 1/C**2 - M**2 * B`
`F = ((A+N)/B + G - 1)/(C**2 - M**2) * B`
`F = (A+N)/B + (G - 1)/C**2 - M**2 * B`

## Question 29

2 out of 2 points

The following identifiers are all correct variable names (even if they do not follow the recommended conventions), except (Choose ALL correct answers)

Selected Answers: ✓ 3sNumber
✓ #OfThrees

Answers: ✓ 3sNumber
numberofthrees
numberOfThrees
_numberOf3s
✓ #OfThrees

## Question 30

2 out of 2 points

Given the following code

words= "Python Language"

Which of the following statements correctly tests whether all the letters in the words variable are uppercase letters?

Selected Answer:
```
if  words.upper()== words:
    print("Uppercase letters")
```

Answers:
```
if  words.upper():
    print("Uppercase letters")
```

```
if  words.upper()=True:
    print("Uppercase letters")
```

```
if  words.upper()= words:
    print("Uppercase letters")
```

```
if  words.upper()== words:
    print("Uppercase letters")
```

## Question 31

2 out of 2 points

Which of the code correctly determines if the age entered by user is valid?

Requirements for valid age are:

- Age only contains digits
- Age is above 20 and less than equal 50

Selected Answer:
```
age = input('Please enter you age')
if age.isdigit():
    age = int(age)
    if age >20 and age <= 50 :
        print("Valid Age")
```

Answers:
```
age = int(input('Please enter you age'))
if age.isdigit():
    if age >= 21 or age <= 50 :
        print("Valid Age")
```

```
age = int(input('Please enter you age'))
if age.isdigit():
    if age >20 and age <= 50 :
        print("Valid Age")
```

```
age = input('Please enter you age')

if age.isdigit():

    age = int(age)

    if age >= 21 or age <= 50 :

        print("Valid Age")
```

```
age = input('Please enter you age')
if age.isdigit():
    age = int(age)
    if age >20 and age <= 50 :
        print("Valid Age")
```

## Question 32

2 out of 2 points

What string method can be used to determine if the string contained in the variable name `password` consists of letters and digits?

Selected Answer: `password.isalnum()`

Answers:
`password.isupper()`
`password.isalpha()`
`password.isdigit()`

`password.isalnum()`

## Question 33

2 out of 2 points

### Select all correct statements for the following Python code

```
a = 5
b = 0
c = "0"
if(a<10):
    a = a + 2
    b = "c"
if(a<10):
    a = a + a//2
    if(b=="c"):
        print(c)
if(a<10):
    print(b+c)
```

Selected Answers:
- all if statements are evaluated
- the output is "0"

Answers:
- all if statements are evaluated

only the first if statement is evaluated

✓ the output is "0"

the program will run, but will not produce any output

the output is "c0"

## Question 34

2 out of 2 points

What will be the output of the following print statement

```
print('ICS%4d'%(104), 'Test%s'%('01'))
```

Selected Answer: ✓ ICS 104 Test01

Answers:

ICS104 Test01

ICS104 Test 01

ICS 104Test 01

✓ ICS 104 Test01

## Question 35

2 out of 2 points

Which of the following are needed to run Python code? (mark all answer parts that you believe are correct):

Selected Answers: ✓ Python compiler

✓ The virtual machine

Answers: ✓ Python compiler

✓ The virtual machine

A DVD disk

A flash disk

## Question 36

4 out of 4 points

What will be the output of the following code fragment?

```
st = 'Success hinges less on getting everything right than on how you handle getting things wrong'

if 'es' in st:
    print(st.count('es'))
else:
    print('Not Found')
```

Selected Answer: ✓ 3

Correct Answer: ✓ 3

Answer range +/- 0 (3 - 3)

## Question 37

2 out of 2 points

**Select the correct option based on the below python code.**

```
num1 = 8
num2 = 7
num3 = 0.0

CONSTANT = 0

if num1 < num3 and num2 * 2 <= CONSTANT:
    print("First block is executed.")

elif num1 > num2 or num3 * 2 > CONSTANT:
    print("Second block is executed.")

else:
    print("Third block is executed.")
```

Selected Answer: Second block is executed.

Answers:
Third block is executed.
First block is executed.
Second block is executed.
Program will not execute and give invalid syntax error.

## Question 38

1.3334 out of 2 points

The following identifiers follow the recommended conventions for variable names, constant variables or user-defined data types, except (Choose ALL correct answers)

Selected Answers: GPI
G_P_I

Answers:
GPI
GRAMSPERINCH
GramsPerInch
G_P_I
GRAMS_PER_INCH

## Question 39

2 out of 2 points

**What will be the output of the following Python code**

```
x = 3.141592653589793238
x += 5
print(round(x,5))
```

Selected Answer: 8.14159

Answers:
8.14159
8.5

None of the given answers is correct

The program will generate a syntax error

3.14159

## Question 40

4 out of 4 points

What will be the output of the following code fragment?

```
st1 = 'A'.lower()
st2 = 'B'.lower()

print(st1*2 + st2*2)
```

Selected Answer: ✔ aabb

Correct Answer:

| Evaluation Method | Correct Answer | Case Sensitivity |
|---|---|---|
| ✔ *Exact Match* | aabb | *Case Sensitive* |
| ✔ *Exact Match* | aa bb | *Case Sensitive* |

## Question 41

0 out of 0 points

Consider a program where the variables - ***product1*** and ***product2*** will contain the names (can be of maximum 6 characters) of two different products (entered by the users). The user will also input an integer number for the variable - ***Price1*** and a float number of the variable - ***Price2*** [The integer number can be of maximum 6 digits and the float number can be of maximum 5 digits including two decimal digits].

Using the print function along with the required string format operator (only), you need to produce outputs so that the Product names are **Left**-aligned and the Prices are **Left**-aligned as displayed in the sample-outputs [The sample-output table exactly shows the spaces and alignments required for the Product names and Prices (in Line1 & Line2) but you don't need to print the position values].

**Sample Input1:**

Enter the name of the Product1: MILK
Enter the name of the Product2: EGG
Enter an integer value: 100
Enter a float value: 91.87

**Sample Output 1:**

| Position | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Line 1 | M | I | L | K | | | | 1 | 0 | 0 | | | |
| Line 2 | E | G | G | | | | | 9 | 1 | . | 8 | 7 | |

**Sample Input 2:**

Enter the name of the Product1: TEA
Enter the name of the Product2: BREAD
Enter an integer value: 52
Enter a float value: 264.39

**Sample Output 2:**

| Position | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Line 1 | T | E | A | | | | | 5 | 2 | | | | |
| Line 2 | B | R | E | A | D | | | 2 | 6 | 4 | . | 3 | 9 |

**PROGRAM CODES:**

```
product1 = input("Enter the name of product1: ")
product2 = input("Enter the name of product2: ")
price1 = int(input("Enter an integer value: "))
price2 = float(input("Enter a float value: "))
```

**# Enter your code below**

Selected Answer:
```
product1 = input("Enter the name of product1: ")
product2 = input("Enter the name of product2: ")
price1 = int(input("Enter an integer value:  "))
price2 = float(input("Enter a float value:  ") )
print("%-6s %-6d" % (product1 , price1))
print("%-6s %-6.2f" % (product2 , price2))
```

Correct Answer:
```
#Various Solutions (Version 3 : Left-Left):
print("%-6s %-6d"%(product1,price1))  print("%-6s %-6.2f"%(product2,price2))
print("%-6s %-6s"%(product1,price1))  print("%-6s %-6s"%(product2,price2))

#Deductions:
# a) First Line does not contain %product1 and %price1 or %(product1,price1): -1
# b) First Line does not contain "%-6s" or "%-6s " or "-7s" (at the beginning within print function): -1
# c) First Line does not contain "%-6d" or "%-6s" (after excluding deduction point - b): -1
# d) Second Line does not contain %product2, %price2 or %(product2,price2): -1
# e) Second Line does not contain "%-6s" or "%-6s " or "-7s" (at the beginning in print function) : -1
# f) Second Line does not contain "%-6.2f" or "%-6s" (after excluding deduction point - e): -1

# g) First Line does not contain print : -3
# h) Second Line does not contain print : -3
```

## Question 42

2 out of 2 points

What is the output of the following python code:

```
x = 24559
y = 73459
a = 709
z = x%10 + y%10
z = z + a//100
print(z)
```

Selected Answer: 25

Answers: 25

13

93

15

20

## Question 43

2 out of 2 points

Which of the following are parts of the problem-solving process using software development (mark all answer parts that you believe are true):

Selected Answers: Understanding the problem
Translating the algorithm into Python

Answers: Understanding the problem
Translating the algorithm into Python
All of the answer parts in this question are correct
Writing the problem in Word format

Thursday, April 29, 2021 3:11:14 PM AST

← OK