Q1 Notes

1 Point

Academic Honesty

It is a violation of the Academic Integrity Code to look at any reference material other than your textbook and lecture notes, or to give inappropriate help to someone or to receive unauthorized aid by someone in person or electronically via messaging apps such as WhatsApp. Academic Integrity is expected of all students of Hacettepe University at all times, whether in the presence or absence of members of the faculty. Do NOT sign nor take this exam if you do not agree with the honor code.

Understanding this, I declare I shall not give, use or receive unauthorized aid in this examination.

Signature (Specify your name and surname as your signature)

Mehmet Taha USTA MTUSTA

Notes about the exam

- If you think there is an error in the questions, please write `Error` in the provided space for the answer.
- While writing a list in the provided space, you should not use white space between items. A proper answer should be like this: `[1,2,3]` If you do not obey this specification, you won't have full credits.

Q2

10 Points

```
1  def bbm101(class):
2      student = class % 10
3      count = 0
4      while class != 0:
5          x = class % 10
6          if student == x:
7              count += 1
8          else:
9              count = 1
10             student = x
11         if count == student:
12             return count
13         class = class // 10
14     return student
```

Consider the function `bbm101` defined above. For each of the expressions given below, please write the output displayed by the Python interpreter when the expression is evaluated.

Q2.1

4 Points

`bbm101(2233)`

2

Q2.2

3 Points

`bbm101(4445555)`

4

Q2.3

3 Points

`bbm101(498729879871)`

1

Q3

8 Points

What does the following Python code print?

```
1  items = [5, 10, 11, 6, 2, 1, 7]
2  items2 = [3, 5, 23, 6, 7, 11, 2, 13]
3  flag = 1
4
5  def process(items):
6      global flag
7      if flag==1:
8          flag=0
9          items = list(map(lambda x: x*2+1, items))
10     else:
11         items = list(filter(lambda x: x in items2, items))
12         flag=1
13     return items
14
15 items = process(process(process(process(items))))
16 print(items)
```

[23,11,7]

Q4

10 Points

Fill in the blanks #1 to #3 and complete the Python code so that it could produce the given output.

Python Code	Output

`a = list(range(10))`
`print(a)`
 	
`b = a[____(1)____]`
`print(b)`
 	
`c = a[____(2)____]`
`print(c)`
 	
`d = ____(3)____`
`print(d)`
	`[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]`
	`[7, 6, 5]`
	`[5, 6, 7]`
	`[7, 6, 5, 5, 6, 7]`

Q4.1 What should come to blank #1?

4 Points

- ○ 3:-6:-1
- ○ 3:-6:1
- ◉ -3:-6:-1
- ○ -3:-6:1

Q4.2 What should come to blank #2?
3 Points

- ○ -2:-5:1
- ○ -2:-5:-1
- ○ -5:-1
- ◉ 5:-2

Q4.3 What should come to blank #3?
3 Points

- ○ b.append(c)
- ○ b.add(c)
- ◉ b + c
- ○ b.concatenate(c)

Q5
12 Points

Fill in the blanks #1 to #4 and complete the Python code so that it could produce the given output.

Python Code	Output

`fruits_s = "apple banana apple apple banana " \`
`  "apple apple banana apple apple banana " \`
`  "apple apple banana apple apricot apple " \`
`  "banana apricot banana banana apricot " \`
`  "banana banana"`
 	
`fruits_list = fruits_s.split()`
 	
`fruits = ____(1)____`
 	
`for fruit in fruits_list:`
`  if ____(2)____:`
`  fruits[fruit] ____(3)____`
`  else:`
`  fruits[fruit] = 1`
 	
`for key, value in ____(4)____:`
`  print(key, " : ", value)`
	`apple  :  11`
	`apricot  :  3`
	`banana  :  10`

Q5.1 What should come to blank #1?

3 Points

- ○ ()
- ○ []
- ◉ {}

Q5.2 What should come to blank #2?

3 Points

- ○ fruit in fruits_list
- ○ fruits in fruits_list
- ◉ fruit in fruits

Q5.3 What should come to blank #3?

3 Points

- ○ fruits**fruit** += 1
- ○ = fruit**fruit** + 1
- ◉ += 1

Q5.4 What should come to blank #4?

3 Points

- ○ fruits.items()
- ○ fruits.get_items()
- ◉ sorted(fruits.items())
- ○ sorted(fruits.get_items())

Q6

8 Points

Fill in the blank line and complete the Python code below so that it could produce the given output.

Python Code	Output

`def add():`
`  x = 15`
 	
`  def change():`
`  print("Changing x...")`
`  _____`
`  x = 20`
 	
`  print("Before: ", x)`
`  print("Making change")`
`  change()`
`  print("After: ", x)`
 	
`add()`
 	
`print("Final value of x is ", x)`
	`Before:  15`
	`Making change`
	`Changing x...`
	`After:  15`
	`Final value of x is  20`

- ◉ global x
- ○ local x
- ○ nonlocal x

Midterm exam - Part 2

● GRADED

STUDENT

MEHMET TAHA USTA

TOTAL POINTS

49 / 49 pts

QUESTION 1

Notes **1** / 1 pt

QUESTION 2

(no title) **10** / 10 pts

2.1 (no title) **4** / 4 pts

2.2 (no title) **3** / 3 pts

2.3 (no title) **3** / 3 pts

QUESTION 3

(no title) **8** / 8 pts

QUESTION 4

(no title) **10** / 10 pts

4.1 What should come to blank #1? **4** / 4 pts

4.2 What should come to blank #2? **3** / 3 pts

4.3 What should come to blank #3? **3** / 3 pts

QUESTION 5

(no title) **12** / 12 pts

5.1 What should come to blank #1? **3** / 3 pts

5.2 What should come to blank #2? **3** / 3 pts

5.3 What should come to blank #3? **3** / 3 pts

5.4 What should come to blank #4? **3** / 3 pts

QUESTION 6

(no title) **8** / 8 pts