2019 SEC 4 COMPUTING PRELIM PAPER 2 MARKING SCHEME

Task 1

Question	Answer	Marks

	A	B	C	D	E	F	G
1	Account Number	Amount Deposited	Number of Months deposited	Interest Rate	Interest payable	Gift Voucher	What-If
2	ID001	$4,050.00	13	0.005	$21.94	NO	$4,387.02
3	ID002	$2,030.00	15	0.005	$12.69	NO	$2,198.93
4	ID003	$780.00	22	0.005	$7.15	NO	$844.91
5	ID004	$3,120.00	24	0.01	$62.40	NO	$3,379.63
6	ID005	$2,440.00	38	0.015	$115.90	NO	$2,643.04
7	ID006	$9,250.00	42	0.015	$485.63	YES	$10,019.74
8	ID007	$8,850.00	7	0	$0.00	NO	$9,586.45
9	ID008	$8,210.00	20	0.005	$68.42	NO	$8,893.19
10	ID009	$6,490.00	40	0.015	$324.50	YES	$7,030.06
11	ID010	$5,630.00	16	0.005	$37.53	NO	$6,098.50
12	ID011	$480.00	28	0.01	$11.20	NO	$519.94
13	ID012	$2,100.00	36	0.015	$94.50	NO	$2,274.75
14	ID013	$1,460.00	40	0.015	$73.00	NO	$1,581.49
15	ID014	$3,520.00	18	0.005	$26.40	NO	$3,812.92
16	ID015	$2,200.00	6	0	$0.00	NO	$2,383.07
17	ID016	$4,680.00	44	0.015	$257.40	YES	$5,069.45
18	ID017	$6,270.00	32	0.01	$167.20	YES	$6,791.76
19	ID018	$4,200.00	18	0.005	$31.50	NO	$4,549.50
20	ID019	$1,530.00	28	0.01	$35.70	NO	$1,657.32
21	ID020	$5,710.00	12	0.005	$28.55	NO	$6,185.16
22							
23	Standard deviation of amount deposited		$2,668.32				
24	Number of deposits more than $3000		12				
25						RATES	
26					Minimum Number of Months Deposited	Description	Interest Rate per year
27					0	one year or less	0.00%
28					12	one to two years	0.50%
29					24	two to three years	1.00%
30					36	three to four years	1.50%
31					48	four years or more	2.00%
32							

Question	Answer	Marks
(a)	=STDEV(B2:B21)	1
(b)	=COUNTIF(B2:B21, ">3000")	1
(c)	=VLOOKUP(C2,$E$27:$G$31,3,TRUE)	2
(d)	= B2 * C2 * D2 / 12	2
(e)	=IF(AND(B2>3000,C2>24),"YES","NO")	2
(f)	=FV(2%/12,48,0,-B2)	2

Task 2

Question	Answer	Marks
| | ```python
# Input items in a shopping cart and the quantity


# Change of different_items to be 5.
different_items = 5


shopping_cart = []
shopping_item = []


for i in range(different_items):
    new_item = input("Please enter an item: ")
    new_quantity = input("Please enter the quantity of item: ")


# Check that new quantity is positive integer.
# A prompt for user of quantity is not integer
# Allow user to re-enter the input

    while not new_quantity.isdigit() or int(new_quantity) <= 0:
        print("The quantity needs to be positive integer.")
        new_quantity = input("Please enter the quantity of item: ")


# Allow user to input unit cost of item
    new_cost = input("Please enter the unit cost of item: ")
    shopping_item = [new_item, int(new_quantity), float(new_cost)]
    shopping_cart.append(shopping_item)
print(shopping_cart)


largest_quantity = 0
sequence = 0
for j in range(different_items):
    if shopping_cart[j][1] > largest_quantity:
        sequence = j
        largest_quantity = shopping_cart[j][1]


# Initialising smallest_quantity
# Determine the item with the smallest quality
smallest_quantity = shopping_cart[0][1]
sequence2 = 0
for k in range(different_items):
    if shopping_cart[k][1] < smallest_quantity:
        sequence2 = k
``` | |

```
        smallest_quantity = shopping_cart[k][1]

print("The item with the greatest quantity is
",shopping_cart[sequence][0])
print("There are ",largest_quantity, shopping_cart[sequence][0], "in
total.")

# Print the item with the smallest quantity and the respective quantity.

print("The item with the smallest quantity is
",shopping_cart[sequence2][0])
print("There are ",smallest_quantity, shopping_cart[sequence2][0], "in
total.")

# Multiply cost of each item with quantity
# Add the total cost of items
cost = 0
for p in range(different_items):
    cost += shopping_cart[p][1] * shopping_cart[p][2]
print("The total cost is $",cost)
```

Task 3

Question	Answer	Marks
	Get the required number from user with appropriate prompt	
	Verify the input, if the verification fails, display appropriate error message and ask the user to re-enter the number	
	Display the subtraction step in a single line. E.g. "721 - 127 = 594"	
	Display the addition step in a single line. E.g. "594 + 495 = 1089"	
	Ask the user if he wants to try again, repeat step 1 if user wants to, otherwise end the program.	

Task 4

Question	Answer	Marks
(a)	Get user to enter the 3 input in a single line Verify all 3 input as int and with 0-100 range Apply the correct formula to calculate marks required for SA 2 to obtained A1, A2, B3, B4 grade Display the results	
(b)	1st input should ask user to re-enter marks 2nd input should ask user to re-enter marks 3rd input should display result with A1 being "Not Obtainable"	
(c)	Able to modify the algorithm for "more time" Able to display "more time" Able to modify the algorithm for "maintain" Able to display "maintain" Able to modify the algorithm for "Can divert" Able to display "Can divert"	
(d)	Suggested result for image (to be updated later when input are decided)	