Sec 4E Computing Prelim 2021 Paper 2 Marking Scheme

Tas	sk 1:				
	в	С	D	E	F
1					
2					LIBRARY RECOR
	Shelf	Book	Book	Loan	Extend
3	ID	ID	Title	date	Lxtellu
4	00	GEO0063129	Planet Earth	44448	
5	02	GEO0188940	Gems	44459	Yes
6	00	FIN0020604	Investing 101	44437	Yes
7	02	GEO0042447	Volcano Land	-	
8	01	BIB0234074	Steven Wonders	44446	
9	02	OTH0016592	Magazines	44450	
10	01	FIN0288489	Wall street legends	-	
11	00	BIB0157369	Eddie Gagario	-	
12	02	FIN0254526	rich bro poor bro	44450	
13	00	GEO0171880	twelveth ocean	-	
14	00	FIN0050172	money mind	44445	Yes
15	02	ART0294228	music and society	44451	
16	00	GEO0082743	terraforming	44457	
17	00	OTH0059956	Education	-	
18	00	SCI0250607	Kitchen Science	-	
19	01	GEO0040616	Martian Land	-	
20	02	OTH0072890	Blank	44442	Yes
21	02	SCI0024387	Newtonian Mechines	-	
22	01	SCI0138847	Darwinian Dream	-	
23	02	ART0290104	Theatrics	44442	
24	02	ART0222352	Manga Artists	44454	
25	01	=CONCATENATE(A25,B25,RAN	Discovery	-	
26					
27		add one entry of 5 random numb	é		
28		[1]			
29					

	G	Н	1	J			
_	Today's Date:	=TODAY()		[1] today()			
ORDS							
	Loan Expiry	Status	Shelf #				
_	Date	Status	5101 #				
_	=IF(AND(E4<>"-", F4="Yes"), E4+21, IF(E4="-", "-", E4+14))	=IF(G4<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C4,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E5<>"-", F5="Yes"), E5+21, IF(E5="-", "-", E5+14))	=IF(G5<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C5,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E6<>"-", F6="Yes"), E6+21, IF(E6="-", "-", E6+14))	=IF(G6<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C6,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E7<>"-", F7="Yes"), E7+21, IF(E7="-", "-", E7+14))	=IF(G7<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C7,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E8<>"-", F8="Yes"), E8+21, IF(E8="-", "-", E8+14))	=IF(G8<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C8,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E9<>"-", F9="Yes"), E9+21, IF(E9="-", "-", E9+14))	=IF(G9<\$H\$1, "Overdue",	=VLOOKUP(LEFT(C9,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E10<>"-", F10="Yes"), E10+21, IF(E10="-", "-", E10+14))	=IF(G10<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C10,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E11<>"-", F11="Yes"), E11+21, IF(E11="-", "-", E11+14))	=IF(G11<\$H\$1, "Overdue"	'=VLOOKUP(LEFT(C11,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E12<>"-", F12="Yes"), E12+21, IF(E12="-", "-", E12+14))	=IF(G12<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C12,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E13<>"-", F13="Yes"), E13+21, IF(E13="-", "-", E13+14))	=IF(G13<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C13,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E14<>"-", F14="Yes"), E14+21, IF(E14="-", "-", E14+14))	=IF(G14<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C14,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E15<>"-", F15="Yes"), E15+21, IF(E15="-", "-", E15+14))	=IF(G15<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C15,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E16<>"-", F16="Yes"), E16+21, IF(E16="-", "-", E16+14))	=IF(G16<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C16,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E17<>"-", F17="Yes"), E17+21, IF(E17="-", "-", E17+14))	=IF(G17<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C17,5),\$K\$4:\$L\$18,2,FALSE)				
	=IF(AND(E18<>"-", F18="Yes"), E18+21, IF(E18="-", "-", E18+14))	=IF(G18<\$H\$1, "Overdue"	'=VLOOKUP(LEFT(C18,5),\$K\$4:\$L\$18,2,FALSE)				
	=IF(AND(E19<>"-", F19="Yes"), E19+21, IF(E19="-", "-", E19+14))	=IF(G19<\$H\$1, "Overdue	'=VLOOKUP(LEFT(C19,5),\$K\$4:\$L\$18,2,FALSE)				
	=IF(AND(E20<>"-", F20="Yes"), E20+21, IF(E20="-", "-", E20+14))	=IF(G20<\$H\$1, "Overdue"	'=VLOOKUP(LEFT(C20,5),\$K\$4:\$L\$18,2,FALSE)				
	=IF(AND(E21<>"-", F21="Yes"), E21+21, IF(E21="-", "-", E21+14))	=IF(G21<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C21,5),\$K\$4:\$L\$18,2,FALSE)				
	=IF(AND(E22<>"-", F22="Yes"), E22+21, IF(E22="-", "-", E22+14))	=IF(G22<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C22,5),\$K\$4:\$L\$18,2,FALSE)				
-	=IF(AND(E23<>"-", F23="Yes"), E23+21, IF(E23="-", "-", E23+14))	=IF(G23<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C23,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E24<>"-", F24="Yes"), E24+21, IF(E24="-", "-", E24+14))	=IF(G24<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C24,5),\$K\$4:\$L\$18,2,FALSE)				
_	=IF(AND(E25<>"-", F25="Yes"), E25+21, IF(E25="-", "-", E25+14))	=IF(G25<\$H\$1, "Overdue"	=VLOOKUP(LEFT(C25,5),\$K\$4:\$L\$18,2,FALSE)				
	AND cell + 14 [2]	[2]	[2]				
	••						
	Format red vellow gree	[1]					
	, ,						

к	L				
Book Location					
Label	Shelf				
ART00	1				
ART01	2				
ART02	3				
BIB00	4				
BIB01	5				
BIB02	6				
FIN00	7				
FIN01	8				
FIN02	9				
GEO00	10				
GEO01	11				
OTH00	12				
SCI00	13				
SCI01	14				
SCI02	15				
	_				
Inventory					
Genre	Qty				
ART	=COUNTIF(A4:A25,K23)				
BIB	=COUNTIF(A5:A26,K24)				
FIN	=COUNTIF(A6:A27,K25)				
GEO	=COUNTIF(A7:A28,K26)				
OTH	=COUNTIF(A8:A29,K27)				
SCI	=COUNTIF(A9:A30,K28)				
[1]					

Task 2:

```
total cost = 0
while total cost < 3: ##Qn9
    toppings = ['ham', 'cheese', 'lettuce', 'tomatoes', 'capsicum'] #
   top cost = [1, 0.8, 0.5, 0.5, 0.8]
                                        #On8
   health = [-1, -0.5, 3, 2.5, 3.2] ####Qn11
   print("Welcome to All-Health Salad Bar!")
   print("Please select your toppings below.")
   ham = int(input("Quantity of ham: "))
   cheese = int(input("Quantity of cheese: "))
   lettuce = int(input("Quantity of lettuce: "))
   tomatoes = int(input("Quantity of tomatoes: "))
   capsicum = int(input("Quantity of capsicum: "))
                                                    #On8
   total cost = ham*top cost[0] + cheese*top cost[1] +
               lettuce*top cost[2] + tomatoes*top cost[3] +
                capsicum*top cost[4] #Qn8
                                  ##
   if total cost < 3:
       print("Your order must be at least $3.") ##Qn9
health score = ham*health[0] + cheese*health[1] + lettuce*health[2] +
tomatoes*health[3] + capsicum*health[4]
if health_score > 10: ####
   print("Total cost: $", total cost-discount) ####Qn11
if total cost > 5:
                     ###Qn10
   print("You are entitled to a free drink.") ###Qn10
```

```
Task 3:
lower = input("Enter the lower limit: ") #int
upper = input("Enter the upper limit: ") #int
for num in range(lower,upper): #upper +1
    factorial = 0
                     #1
    factor = num
    for k in range(factorial): # factor
        factorial *= factor
        factor += 1  # -=
    j = factorial
    total = 0
    i = j
    while i >10: # >=
       total += i/10 # %
        i = i / / 10
    total += i
    if j % total = 0: # ==
       print(str(num)+"! =", j, "is a harshad number.")
        if str(j) == str(j)[::1]: # -1
           print("Factorial of", num, "is palindromic as well!")
    else
           # :
        print("Factorial of", num, "is NOT a harshad number.")
```

Task 4:

```
batches = 5
raw info = []
batch no = 0
                      #[1]
for i in range(batches): #[1]
    batch no = i+1
    prompt = "Info for batch " + str(batch no) + ": " #[1]
    raw info += [input(prompt)]
                                              #[1]
batch info = []
for j in range(batches):
    batch info += raw info[j].split(",") #[1]
defect = 0
normal = 0
for k in range(len(batch info)):
                                    #[1]
    if batch info[k] == "1":
        normal += 1
                                    #[1]
    elif batch info[k] == "0":
        defect += 1
                                    #[1]
print("The percentage of defects is", defect/len(batch info)*100, "%")
#[1]
```

```
batches = 5
raw_info = []
batch_no = 0
for i in range(batches):
    batch_no = i+1
    prompt = "Info for batch " + str(batch_no) + ": "
    raw_info += [input(prompt)]
```

###

done = 0

```
if raw info[i][m] == "1" or raw info[i][m] == "0":
                      done += 1  #[1]
               if m % 2 == 1:
                   if raw info[i][m] == ",":
                      done += 1  #[1]
       if done != 20:
           raw info[i] = input("Please re-enter: ") #[1]
           done = 0
###
batch info = []
for j in range(batches):
   batch info += raw info[j].split(",")
defect = 0
normal = 0
for k in range(len(batch info)):
   if batch info[k] == "1":
       normal += 1
   elif batch info[k] == "0":
       defect += 1
#
no inspector = int(input("Enter the number of inspectors: ")) #[1]
#
for x in range(no inspector): #[1]
   print("Inspector", x+1, ": ") #[1]
   batches = 5
   raw info = []
   batch no = 0
   for i in range(batches):
       batch no = i+1
       prompt = "Info for batch " + str(batch no) + ": "
       raw info += [input(prompt)]
   ###
       done = 0
       while done != 20:
           if len(raw info[i]) == 19:
```

```
6
```

```
done += 1
            for m in range(19):
                if m % 2 == 0:
                     if raw info[i][m] == "1" or raw info[i][m] == "0":
                         done += 1
                if m % 2 == 1:
                     if raw info[i][m] == ",":
                         done += 1
        if done != 20:
            raw info[i] = input("Please re-enter: ")
            done = 0
###
batch info = []
for j in range(batches):
    batch info += raw info[j].split(",")
defect = 0
normal = 0
for k in range(len(batch_info)):
    if batch info[k] == \overline{"}1":
        normal += 1
    elif batch info[k] == "0":
        defect += 1
```

print("The percentage of defects is", defect/len(batch_info)*100, "%")