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Arbisoft Fresh Grad Online Test 2021
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You are taking "Recruitment Test" as a timed exam. The timer on the right shows the time remaining in the exam. To receive credit for problems, you must select "Submit" for each problem before you select "End My Exam". Show LessEnd My Exam
you have 1 hour and 12 minutes remaining0:25:07
Course, current location
Course Main Recruitment Test Questions Set
 Previous
Next
Questions Setother Questions Set
Questions Set
Set Theory
1 point possible (graded, results hidden)
If

A = {5, 6, 8, 9, {8, 7}, {4}}

B = {8, 2, 4, 6, {1}}

C = {1, 4, 5, 6, 7, 9, {4}}

D = {1, 10, 3, 4, {1}}

Then the set ((C ∩ C) U A) - B is:

{1, 3, 4, 6, 7, 10, {1}}
{1, {4}, 5, {8, 7}, 7}
{1, 5, 7, 9, {8, 7}, {4}}
{}
submitted
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Answer submitted.Review
Imaginary String Printer
1 point possible (graded, results hidden)

```
          function void imaginaryString()
            {
                arr_1 = ['B', 'D', 'J', 'F', 'S', 'P', 'V', 'K', 'R', 'G', 'T',
'X']
                arr_2 = ['R', 'D', 'P', 'F', 'C', 'L', 'V', 'G', 'E', 'B', 'Y',
'U']

                arr_3 = get_common_values (arr_1, arr_2)
                arr_3 = sort_ascending (arr_3)

                a = [5, 1, 4, 6, 2, 3, 0]
                i = 0

                while (i < length(arr_3))
                {
                  print arr_3[ a[i] ]
                  i = i + 1
                }

            }
```

What will the imaginaryString() function print?
BVPDGRF
5146230
Raise Index Error

RDPFCLVGEBYU
RDPVFGB
BDJFSPVKRGTX
submitted
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Bank Loan
1 point possible (graded, results hidden)
As per agreement with a bank, a businessman had to refund a loan in some equal installments without interest. After paying "39" installments he found that "79.59" percent (approximately) of his loan was refunded. How many installments were there in the agreement?

49
55
53
43
submitted
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Answer submitted.Review
People in a Row
1 point possible (graded, results hidden)
In a cinema ticket line, A has 7 people ahead of it, while B has 14 people behind it. After they swap the positions, A has 24 people ahead. How many people are there in the line including A and B.

39
submitted

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Answer submitted.Review
Truth Harmony
1 point possible (graded, results hidden)
Braden speaks truth in 48% of cases and Fred in 35% of cases. In what percentage of cases are they likely to contradict each other, talking about the same incident.

58.5
submitted
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Stacks and Queues
1 point possible (graded, results hidden)
There are two storage systems present, one is a stack and the other queue. The content of the stack is [10, 14, 2, 0] and the content of the queue is [24, 16, 19, 25, 29, 28, 15, 26] (the first item in both represent the first item stored). The number on each item represent the ID of item.

We have to balance these storage systems (move items between storages so that there are equal number of items in both). Keeping in mind the functionalities of stacks and queues, we have to balance them!

STACK STORAGE: oldest [10, 14, 2, 0] newest

QUEUE STORAGE: oldest [24, 16, 19, 25, 29, 28, 15, 26] newest

What is the newest item in stack storage after balancing the storages?
You can select only one option.

10
16
2
25
submitted
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Answer submitted.Review
System Safe State
1 point possible (graded, results hidden)
A system has 19 magnetic tape drives and 5 processes : P1, P2, P3, P4, P5. The allocation of resources and the need for resources by the processes are described in the table. Which of the following is possible safe state of the system?

Hint: A system is in a safe state if there is a sequence in which all the processes can be executed without getting into a deadlock.

processes Need Allocated P1 11 0 P2 12 0 P3 11 4
P4 17 1 P5 11 0

[5, 2, 1, 3, 4]
[2, 3, 5, 1, 4]
[3, 5, 2, 1, 4]
[1, 2, 3, 4, 5]
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Bubble Sort Integration
1 point possible (graded, results hidden)
What will be the condition of following array after 3 iteration(s) of Bubble Sort while sorting in ascending order

[39, 21, 35, 24, 41, 12, 57, 12, 24]

[39, 12, 24, 12, 41, 24, 21, 35, 57]
[21, 24, 12, 35, 12, 24, 39, 41, 57]
[12, 39, 24, 21, 12, 24, 35, 41, 57]
[39, 24, 12, 41, 35, 21, 24, 12, 57]
submitted
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Answer submitted.Review
Average Waiting Time
1 point possible (graded, results hidden)
Given the following processes with their arrival and burst time given below, calculate the average waiting time using the First Come First Serve approach.

Arrival time: Time when the process is ready for its execution on the CPU.
Burst time: Time required by the process to complete its execution on the CPU.
Waiting time: Time spent by the process waiting for the CPU after its arrival.
Process Arrival Time Burst Time P1 7.0 14.0 P2 13.0 19.0 P3
17.0 26.0 P4 25.0 35.0

72
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.

Answer submitted.Review
XOR and XNOR
1 point possible (graded, results hidden)
Let A : "10000011" , B=?, If { A (Ex-or) B } is a resultant string of ALL ZEROES [00000000] then:

B is 10000011
B is 10100011
B is 01101000
submitted
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Answer submitted.Review
Inheritance Code Snippet
1 point possible (graded, results hidden)
What will be the output of this code snippet? (__init__ is constructor of class)

```
class A:
    def __init__(self):
        self.calc_i(494)

    def calc_i(self, i):
        self.i = 36 * i;

class B(A):
    def __init__(self):
        super().__init__()
        print("i from B is", self.i)

    def calc_i(self, i):
        self.i = 31 * i;

b = B()
```

You can select only one option.

25388
15314
13227
8573
submitted
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Answer submitted.Review
Balancing Parantheses
1 point possible (graded, results hidden)
A stack can be used to check whether the parentheses in an expression are balanced or not, by pushing an opening parenthesis to the stack and popping it whenever a closing parenthesis is encountered. What is the maximum possbile number of elements on the stack at any one time when evaluating: () ( ) (((()) (())) () ())?

unanswered
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SaveSave Your Answer
Novel Arrangement
1 point possible (graded, results hidden)
Anaya has three Urdu novels (D, E, C) and Four English novels (F, B, A, G). She wants to arrange her novels in a way that following conditions must be met:

- No english novel can be placed immediate after another english novel.

- C must be placed earlier than A.

- B and A must be separated from each other by at least one novel.

- B must be placed immediately before or after D.

- D must be placed immediately after F, but not if E is placed earlier than F.

Choose the best sequence of novels:
A, D, B, C, G, E, F
E, C, B, G, A, D, F
G, E, F, C, B, D, A
F, C, G, E, B, D, A
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Round and Round
1 point possible (graded, results hidden)
We have come upon a 'longRunning' method in our code. In order to check its lengthy execution time, we are calculating its iterations against different inputs.

Can you figure out the number of iterations it will take to execute the following input:

[0, 13, 13, 15, 18]

```
function longRunningFunction(array) {
  for ( i = 0; i < length(array); i++ ) {
    idx = i
    for ( j = i + 1; j < length(array); j++ ) {
      if ( array[idx] > array[j] ) {
        idx = j
      }
    }
    swap( array[i], array[idx] )
  }
}
```

1
0
6
3
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Find Me If You Can
1 point possible (graded, results hidden)
Find the missing operators:

6 ? 8 ? 25 ? 17 = -28
Operators allowed: + - *
Answer format: a+b-c*d

-6-8+25+17
submitted

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Answer submitted.Review
Age Selection
1 point possible (graded, results hidden)
Table: A
id name age 19 Zara 58 66 Abdullah 38 51 Fatima 60
128 Faran 48 120 Shahryar 46
Table: B
id name age 22 Abdullah 39 58 Fatima 37 99 Zia 56
76 Mahnoor 43
How many rows does the result of the following SQL query contains?

```
SELECT A.id
FROM A
WHERE A.age > ALL (SELECT B.age FROM B WHERE B. name in ['Abdullah', 'Faran', 'Zia', 'Gohar'])
```

1
2
3
4
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Hash Clash
1 point possible (graded, results hidden)
An array is used here to represent a Hash Table. Array index starts from 0 and ends at size_of_array - 1
Which slot would the number 37 hash to in the following Hash Table?
-- 48 -- -- 37 49 -- -- 41 -- 27
size_of_table = 11

The hash function is :

hash(number):number % size_of_table

For collision resolution use the following rehash function:

new_hash_value:rehash(old_hash_value)
rehash(position):(position+1) % size_of_table

6
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Process Scheduling
1 point possible (graded, results hidden)

Our CPU executes processes in bursts of 100ms and then calculates the next process to execute after each burst.
3 processes are fed into our CPU's process scheduler with the following attributes

Process A
Arrival Time: 0
Burst Time: 200

Process B
Arrival Time: 800

Burst Time: 700

Process C
Arrival Time: 200
Burst Time: 1400

There are four main algorithms which our CPU uses to schedule processes:
FCFR: Firct Come First Serve
SJF: Shortest Job First
SRTF: Shortest Remaining Time First
RR: Round Robin

If we are using the SRTF algorithm to schedule processes, which will processes will have been completed after 1500 ms?

Answer as a comma separated list e.g. A,B or B,C,A
A,B
  submitted
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Answer submitted.Review
Binary Search Steps Counter
1 point possible (graded, results hidden)

How many iterations of binary search are required to find 659 in [131, 285, 301, 358, 375, 466, 481, 508, 526, 534, 659, 662, 705, 725, 807, 878]?

6
7
5
4
submitted
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Answer submitted.Review
Identical Stacks
1 point possible (graded, results hidden)
Each row below are the stacks of water bottles with their respective heights(n)

1. | 4 | 3 | 4 | 2 | 4 | 1 | 3 | 2 |
2. | 3 | 3 | 1 | 1 | 4 | 1 | 2 |
3. | 2 | 5 | 5 | 1 | 1 |
The rightmost element shows the top of the stack. Adding up the heights of the bottles on a stack will give you the overall height of the stack. You can pop the bottles from each stack any number of times to change the height of the stack.
Determine the maximum height of each stack where all of the three stacks are equal in terms of height.

13
5
8
6
submitted
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Answer submitted.Review
Propositional Logic
1 point possible (graded, results hidden)
We found 3 children discussing something about cows, fish and cats but it was hard to tell if what they were speaking was True(T) or False(F). Can you apply

some sort of Propositional Logic to deduce if what they are saying is True(T) or False(F)

Child-1: Fish can do programming and Fish can do programming.

Child-2: Fish can swim if and only if Fish can swim.

Child-3: Fish can do programming and Fish can do programming, which implies, Fish can swim if and only if Fish can swim.

Child-1: T/F
F
  submitted
Child-2: T/F
T
  submitted
Child-3: T/F
F
  submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Custom Series
1 point possible (graded, results hidden)
Assume we have a custom Series such that

First number is: 2

Second number is: 2

Every successing number is calculated as: Fn = 1x Fn−2 + 1x Fn−1 e.g.

Third number is: F3 = 1x F1 + 1x F2 = 1x2 + 1x2 = 4

What is 7th number in the series
6
10
16
26
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
LinkedList
1 point possible (graded, results hidden)

```
     function foo(start) {
         if (start == NULL)
                 return

             print(start.value)

             if (start.next != NULL)
                   foo(start.next.next);

             print(start.value);
     }
```

What will be the output of the the following function if start pointing to first node of following linked list?
[45, 63, 44, 32, 42, 9]

45, 32, 44, 63, 9
45, 44, 42, 42, 44, 45
45, 32, 63, 9, 44

45, 32, 42, 63, 44, 9
submitted
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Answer submitted.Review
FIFO Page Fault
1 point possible (graded, results hidden)
Currently employed page replacement policy is FIFO and the capacity of storing 6 page frames at any instance of time. The page reference string is ACDCZXYYDAZDCBZ. Can you tell the count of the page faults?

9
  submitted

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Answer submitted.Review
Valid Binary Search Tree
1 point possible (graded, results hidden)
Suppose that we have numbers between 1 and 100 in a binary search tree and we want to search for the number 32. Which of the following sequences could not be the sequence of nodes examined ?

[48, 5, 7, 27, 36, 30, 35, 33, 32]
[42, 9, 36, 21, 35, 29, 31, 33, 32]
[12, 17, 62, 51, 3, 82, 94, 32]
[69, 43, 27, 37, 30, 36, 33, 32]
submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Employee Salaries
1 point possible (graded, results hidden)
Table: employee_age emp_id age 100 34 102 31 103 37 101 20
Table: employee_salary emp_id salary 100 45000 101 35000 104 54000 106 50000
With given tables what would be output of following SQL query:

```
SELECT
    MIN(eSal.salary)
FROM
    employee_age as eAge INNER JOIN employee_salary as eSal
ON
    eAge.emp_id = eSal.emp_id

    WHERE eAge.age > 20
GROUP BY eAge.emp_id
    HAVING MIN(eSal.salary) > 35000
```

35000
54000
45000
50000
submitted
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Answer submitted.Review
Mode, Mean, Median
1 point possible (graded, results hidden)
M = [35, 83, 5, 83, 'N']

What is the value of N if the mode, mean and median of the list M are equal to each other? Express your answer to the nearest whole number.

Note:
The mode of a set of data values is the value that appears most often.
The mean is the average of the numbers: a calculated "central" value of a set of numbers.
Median is the middle number in a sorted list of numbers.
83
unanswered
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SaveSave Your Answer
Algorithm
1 point possible (graded, results hidden)
What is the output of the following code?

```
func min_jumps(arr[], start, end)
{
    if(start == end)
        return 0;

    int min = INT_MAX;  // Max value of int

    for(idx = 1; arr[start] >= idx AND end >= start + idx; idx++)
    {
        int jumps = min_jumps(arr, start + idx, end) + 1;
        if(min > jumps)
            min = jumps;
    }
    return min;
}

main()
{
    arr[] = [2, 2, 2, 1, 3, 1, 1, 1, 4, 2],
    ans = min_jumps(arr, 0, lenOfArr);
    print ans;
}
```

4
7
5
3
submitted
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Answer submitted.Review
Inheritance
1 point possible (graded, results hidden)
What should be the result of running the following pseudocode snippet?

```
class Class1:
    function function_1(self):
         print("a")

    function function_2(self):
         print("b")
```

```
class Class2:
    function function_1(self):
         print("c")

    function function_3(self):
         print("d")


class Class3:
    function function_2(self):
         print("e")

    function function_3(self):
         print("f")


class ClassA(Class3, Class1):
    function function_3(self):
         print("h")


class ClassB(Class2):
    function function_2(self):
         print("i")

    function function_3(self):
         print("j")


class ClassC(Class1):
    function function_2(self):
         print("k")

    function function_3(self):
         print("l")


ClassA().function_2()
ClassC().function_3()
ClassC().function_2()
```

dflk
  submitted
SubmitYou have used 1 of 1 attemptSome problems have options such as save, reset, hints, or show answer. These options follow the Submit button.
Answer submitted.Review
Travelkitties
1 point possible (graded, results hidden)
Travelkitties is a travel aggregator which allow users to book recreational trips using their app from all arround the world. You've been given a task to find out top 1 travel desitination (city) to help business team in making data driven decisions.
Note: Travel desitination is arriving city of trip.

user
uid name age 1 Andy Williams 46 2 Joe Johnson 25 3 John Williams 56 4 Joe Williams 27 5 Andy Smith 32
city
cid lat lng city country_code 1 34.95303 -120.43572 Boston US 2 42.16808 -88.42814 San Francisco US 3 39.96097 -75.60804 San Antonio US 4 34.09668 -117.71978 Houston US 5 46.09273 -88.64235 San Diego US
trips

tid uid origin_id destination_id 1 2 4 1 2 2 1
1 3 5 1 1 4 1 3 2 5 5 4 2
6 1 5 4 7 5 2 2
With given tables what would be output of following SQL query:

```
SELECT
  city_name
FROM (
  SELECT
        city AS city_name,
            count(t.destination_id) AS trips
  FROM city AS c
  INNER JOIN trips AS t
  ON c.cid = t.destination_id
  GROUP BY city, t.destination_id
) AS ranked_trips
ORDER BY trips DESC
LIMIT 1;
```

You can select only one option.

San Diego
Houston
Boston
San Antonio
submitted
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Answer submitted.Review
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Question 1: submitted