Arbisoft Summer Internship Test - 2018

* Required

Questions

What will be the output of the code ? *

```
public static void main (String[] args){

    public static int divideByZero() {
        try {
            System.out.println("try");
            int x = 4 / 0;
            return x;
        } catch (Exception e) {
            System.out.println("catch");
        } finally {
            System.out.println("finally");
            return 88;
        }
    }
}
```

- (●) Compile Error
- ( ) Catch
- ( ) Try catch finally
- ( ) Catch finally

Probability of having rain is 2/9 and probability of holiday is 4/9. So what will be the Probability of having holiday on a day when it rained? (Assume rain and holiday are independent events) *

- ( ) 2/3
- ( ) 4/9
- (●) 8/81
- ( ) 2/8

At the end of a banquet 10 people shake hands with each other. How many handshakes will there be in total? *

- ( ) 100
- ( ) 20
- ( ) 45
- (●) 90

165135 is to peace as 1215225 is to: *

- ( ) Lead
- (●) Love
- ( ) Loop
- ( ) Castle

Which of the following is not true for a reference? *

- ( ) Simply an alias for a variable
- (●) Used to pass original objects (Not the copy)

- ○ Holds memory address of variable
- ○ Both (B) and (C)
- ○ None of the above"

Q: What is the asymptotic running time of the following piece of code? *

```
#include <iostream>
 using namespace std;

int main() {
    int n = 100000;
    int array[n];
    for (int i = 0; i < n; i++){
        array[i] = i;
    }
    for (int i = 0; i < n; i++){
        int sum = 0;
        for (int j=0; j<n; j++){
            array[i] += array[j] + i + j;
        }
    }
    for (int i = 0; i < n; i++){
        cout<<array[i]<<endl;
    }
    cout<<endl;
    return 0;
}
```

- ○ O(n^3)
- ○ O(n^2)
- ◉ O(n*logn)
- ○ O(n)
- ○ O(1)

On Ronalds journey from his home to museum, he drove at 50 miles per hour. But on his way back, he got stuck in a traffic jam and could only drive at 20 miles per hour. If the return trip took an extra 90 min, how many miles did he drive round trip? *

- ○ 1
- ○ 50
- ○ 60
- ◉ 100
- ○ 3000

Regular expression (a | b) (a | b) denotes the set: *

- ○ { a, b, ab, aa }
- ○ { a, b, ba, bb }
- ○ { a, b }
- ◉ { aa, ab, ba, bb }

Lets assume that you have an already sorted array, which of the following algorithms will possess O(n) complexity? *

- ◉ Merge Sort
- ○ Heap Sort
- ○ Bubble Sort
- ○ Insertion Sort

If a binary search tree is not balanced, what is the worst-case time for finding an element in it? *

- ○ O(1)
- ◉ O(N)
- ○ O(N*logN)

- ○ $O(N^2)$

Which approach is correct to handle exceptions? *

- ☑ Mention specific exception in catch block which is handlled
- ☑ Catch all execptions in a single catch block using generic exception handler
- ☐ Exceptions should not be specified in catch block to keep things flexible and so that code does not break in future.
- ☐ None of these"

Q: What is the time complexity of getting a value from a key in a hash map? *

- ○ O(N)
- ○ O(logN)
- ○ O(2N)
- ◉ O(1)

Which SQL keyword is needed with aggregate functions? *

- ○ Order
- ◉ Group
- ○ Aggregate
- ○ Concat
- ○ Combine
- ○ Other: _____

Lisa was both the 16th highest and 16th lowest in her mid term exam. How many students are in Lisa's class? *

- ○ 30
- ○ 31
- ○ 32
- ◉ 33

In SQL the statement select * from Student, University is equivalent to *

- ☑ Select * from Student natural join University
- ☐ Select * from Student cross join University
- ☐ Select * from Student union join University
- ☑ Select * from Student inner join University"

Which of the following is False for a function in Databases? *

- ○ Compiled and Executed every time
- ◉ Can not be embedded in SELECT statement
- ○ Exceptions can be handled via try catch block
- ○ Can be used in Stored Procedures
- ○ Both (C) and (D)
- ○ Must return a value"

What is the property in database systems that allows multiple clients to execute SQL statements at the same time without

affecting other transactions? *

- ○ Atomicity
- ○ Aggregation
- ○ Consistency
- ◉ Isolation
- ○ Durability

A vertical windows blind has 32 strips and one of the strip is faulty(does not move with the rest). You need to identify the faulty strip by asking the owner question whether a specific strip is faultyor not. Owner can only reply in 'Yes' or 'No'. What is the least number of questions you must ask in order to identify the faulty strip *

- ○ 2
- ○ 8
- ○ 4
- ○ 5
- ◉ 32
- ○ 66

Which of the following is not a feature of a singly linked list? *

- ○ Insertion can be done in at worst O(1) time
- ○ Searching takes at worst O(n) time
- ◉ Deletion can be done in at worst O(1) time
- ○ If a node's next element is null it means it is the last element in the list
- ○ If the Head is null then the list is empty

One half of the number is 8.37 more than one third of that number. Find the number? *

- ○ 50.40
- ○ 49.80
- ○ 49.93
- ◉ 50.22

Which of the following is true for a Primary key *

- ☑ Uniquely identifies each record
- ☑ Cannot be repeated
- ☐ Cannot be atomic
- ☐ Can be replaced by foreign key

For a simple graph with vertices V and edges E, which of the following is true? *

- ◉ v=e
- ○ v = e+1
- ○ v + 1 = e
- ○ None of the mentioned

What will be the output of the following piece of code? *

```
#include<iostream>
```

```
using namespace std;

class Parent
{
public:
   virtual void show() {
     cout<<" In Parent \n";
   }
};

class Child: public Parent
{
public:
   void show() {
     cout<<"In Child \n";
   }
};

int main(void)
{
   Parent *p = new Child;
   p->show();

   Parent &pr = *p;
   pr.show();

   return 0;
}
```

- ○ In parent \n In Child
- ○ In Parent \n In Parent
- ◉ In Child \n In Child
- ○ In Child \n In Parent
- ○ Runntime Error

Suppose we maintain a pile of distinct movie blue ray discs, placing one on top of another and taking them out one at a time starting from the top. Which of the following data structures closely resembles this situation? *

- ○ Queue
- ◉ Stack
- ○ Binary Tree
- ○ Heap
- ○ Hashtable

There is a gigantic list of numbers and you are responsible for saving the numbers in a data structure so that whenever asked, you have to tell whether given number is in the list or not. Which data structure will be most time efficient in looking up the value from the maintained list? *

- ◉ Binary Tree
- ○ Linked list
- ○ Array
- ○ Hashtable
- ○ Double linked list

if a binary tree have height 11, How many maximum nodes at level 1 can be? *

- ○ 1
- ◉ 2
- ○ 1024
- ○ 247

5 people build a wall in 3 days. But now, there is a need for 3 more walls of the same measures which are to be completed by 6 people. How many days are required? *

- ○ 7.0
- ○ 7.1

- (●) 7.5
- ( ) 7.4

What will be the output of the following program? *

```
int main() {
  bool result = 'a' > 1;
  switch (result) {
     case 0:
        print("Case 0 Executed ");
     case 1:
        print("Case 1 Executed ");
     default:
        print("Default Executed");
  }
  return 0;
}
```

- [ ] Runtime Error
- [ ] Syntax Error
- [ ] Case 0 Executed
- [x] Case 1 Executed
- [ ] Case 0 Executed Case 1 Executed Default Executed
- [ ] Case 1 Executed Default Executed
- [ ] Default Executed
- [ ] Program will execute but behavior will be random

A static function : *

- [ ] Should be called when an object is destroyed
- [ ] Is closely connected to an indvidual object of a class
- [x] Can be called using the class name and function name
- [ ] Is used when a dummy object must be created"

If the pointer's value is not modified at the time of freeing up the dynamic memory, it will point to? *

- [ ] Null
- [ ] Nothing as memory has been deallocated
- [x] That deallocated memory location
- [ ] Back to location it was initialized with

BACK SUBMIT