Arbisoft Fresh Grad Test-2018

1. In an Octal System, shifting two bits of a number to left transform the number by what factor?

a) 4

b) 8

c) 2

d) 64

2. what is the value of x after following code?

```
int x=0;
if(x=0)
{x=10;}
cout << x << endl;
```

a) 0

b) 10

c) Undefined

3. Output of below function for doubly linked list D: (1<-->4<-->3<-->5<-->7)?

```
void temp(struct node* head)
{
if(head==null)
return;

temp(head->next->next);
printf("%d",head->data);
}
temp(D->data);
```

a) Throws Error

b) Prints Nothing

c) 75341

d) 43157

e) 14357

4. Which principle is illustrated by following code?

```
class Person
{
        Constructor(name){this.name=name;}
        showInfo(){print( “I am ” +this.name;}
};
class Employee extends Person
{
        Constructor(name, gender)
        {
                super(name);
                this.gender=gender;
        }
        Constructor(name)
        {
                this(name,”Male”);
        }
        showInfo(){print( “I am ” +this.gender+ “name : ”+this.name;}
};

var person=new Person(“Osama”);
person.show();
person=new Employee(“Kuldeep”,”Male”);
person.showInfo();
```

a) Dynamic Polymorphism

b) Static Polymorphism

c) Encapsulation

d) A and B

5. Suppose we have Data structure with the following operations available.

Push Data //Insert data at start of structure.
Pop //remove data at the end of structure.
Push index data //insert data at specified index.
Pop index //remove data at specified index.

Push 1 d
Push a
Pop
Push x
Pop
Push f
Push 2 z

a) xf

b) xa

c) xfz

d) xz

6. Given an array of n-integers a1….an, what is the average time complexity of calculating the sum of three largest numbers in a1…an?

a) O(1)

b) O(log n)

c) O(n)

d) $O(n^2)$

e) None

7. Which of the following data structure is best suited for task of retrieving N consecutive elements. Assume that structure has more than N elements.

a) Hash map

b) Linked List

c) Array

d) Stack

8. Suppose that we have a fuse box containing 20 fuses, of which 5 are defective. If 2 fuses are selected at random and removed from box in succession without replacing the first, what is the probability that both fuses are defective?

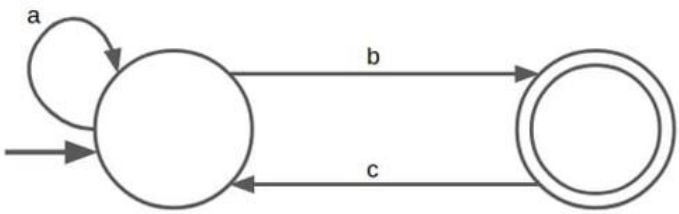
a) 1/5

b) 2/14

c) 1/19

d) 2/17

9. What regular expression does the following NFA represent



a) a*b*(c+a*b)

b) a*b(ca*b)+

c) a*b+(ca*b)

d) a*b(ca*b)*

10. Dynamic Memory is allocated in heap memory because

a) dangling pointer can be avoided

b) Dynamic memory need to be independent of scopes in the code.

c) normal variable lives here as well as it's easy to manage if all variable all at same place

d) stack changes when scope changes, so to void interference with allocated memory.

11. If TV company on Blessed Friday provide a deal of two 32'' & two 39'' for 99k while before sale it was 32'' for 22k and 39'' for 37k. what will be the saving on customer buying 10 32'' and 10 39'' Tvs.

a) 200k

b) 95k

c) 0

d) 100k

12. A good software design has

a) content coupling

b) Functional Cohesion

c) Data Coupling

d) Logical Cohesion

e) Data cohesion

f) Common Environment Coupling.

13. what is not true about dangling pointers?

a) It points to the memory location that is not allocated to program.

b) It points to the memory location that is not currently initialized.

c) A pointer towards memory having all zero values.

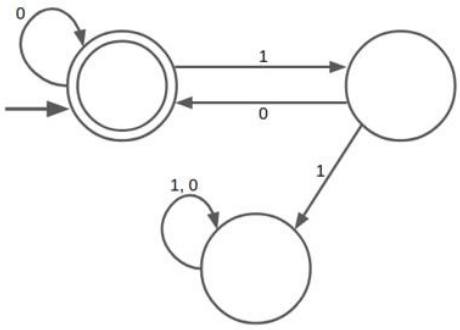
d) A pointer which is not assigned null value after releasing the memory it was pointing to.

14. Does the output length of hashing algorithm vary with amount of input data?

a) Yes

b) No

15.



a) Strings not ending in 1.

b) Empty String.

c) Strings with no consecutive 1.

d) Strings with consecutive 0.

16. Which testing is entirely based on software requirements and its specifications?

a) Acceptance Testing

b) Usability Testing

c) Unit Testing

d) Black box testing.

17. On Ronaldo's journey from his home to museum, he drove at 50 miles per hour. But on his way back, he stuck in 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?

a) 1

b) 50

c) 60

d) 100

e) 3000

18. What will be the following function return if given 31 as input?

```
Function p(n)
{
        If(n<2)
                return false;
        var sqrt=Math.sqrt(n);
        for (var i=2; i<sqrt; i++)
        {
                If(n%i==0)
                        return false;
        }
        Return true;
```

}

a) True

b) false

19. Choose all conditions that are true for Public Key Encryption.

a) Encryption and decryption of message should be computationally feasible, given the appropriate key.

b) Deriving the private key from public key should be a computationally feasible task.

c) A user private key must be available to their closest associates.

d) It should be computationally feasible to determine the private key, given the uncrypted message.

20. Inorder traversal of binary tree is: R, V, T, W, Q, X, S, Y, Z, U.

What will be its pre-order traversal?

a) S,V,R,W,T,X,Q,Y,U,Z

b) S,V,R,T,Q,X,W,U,Y,Z

c) R,T,Q,X,W,V,Z,U,Y,S

d) R,S,T,X,Q,W,Z,Y,U,V

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

a) 50.40

b) 49.80

c) 49.93

d) 50.22

22. Given a pile of document, which sorting algorithm will be best to use in the worst case when adding another document to pile in sorted order?

a) merge sort

b) Insertion sort

c) Quick sort

d) Bubble Sort.

23.

```
void func(int *p)
{
        int q=10;
        P=&q;
}
int main()
{
        Int r=20;
        Int *p=&r;
        Func(p);
        Printf("%d",*p);
        Return 0;
}
```

a) Runtime Error

b) Compile Error

c) 20

d) 10

23. If a binary tree has height of 11, how many maximum nodes at level one can be:

a) 1

b) 2

c) 1024

d) 2047

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

a) 2/3

b) 8/81

c) 4/9

d) 2/8

25. If length of logical address is 16 and offset has 4 bits, what will be the no of pages in a process?

a) 2^16

b) 2^12

c) 2^20

d) 2^4

26. Which of the following is true for a primary key:

a) Uniquely identifies each record

b) cannot be repeated

c) cannot be atomic

d) cannot be replaced by a foreign key