LEVEL 1 SET D PROGRAMMING

Register float a = 3.14f; Choose the right statement.

Variable a is converted to int and then stored in a CPU register.

register Storage Class is ignored and treated as auto float a = 3.14f;

Variable a is stored in CPU registers for fast access.

You get a compiler error as you can not store non integer value in a CPU register

The following program

inc(); inc(); inc();

inc()

static int x;

prmtf("%d", *x);

prints 123

prints 111

prints 012

prints 3 consecutive, but unpredictable numbers

What is the correct syntax to declare a class in C++?

class MyClass

struct MyClass

MyClass class

Class

What is the output of the following code snippet?

int arr[3] = {1, 2, 3};

int •ptr = arr;

printf("%d" ptr + 1));

1

2

3

Which of the following array operations requires shifting elements?

Insertion at the beginning

Deletion at the end

Searching for an element

None of the above

What is the output of the following code snippet?

int arr[3] = {1, 2, 3};

int *ptr = arr + 2;

printf("%d" tr--);

1

2

3

Garbage value

What is the output of the following code snippet?

int i = 1

do {

printf("%d " i++);

} while (i <= 5);

12345

2345

1 1 1 1 1

1234

What is the purpose of the continue statement in C/C++?

It terminates the loop and transfers control to the next iteration.

It skips the remaining statements in the loop and continues with the next iteration

It exits the loop completely

It reinitializes the loop variables

What is the output of the following code snippet?

```
int i = 0;
do {
printf("%d ", i++);
} while (++i < 5);
```

01

02

012

0123

What is the output of the following code snippet?

```
int arr[5] = {1, 2, 3, 4, 5};
int *ptr = arr;
cout << + 2);
```

1

2

3

4

Which of the following problems should be solved using dynamic programming?

Mergesort

Binary search

Longest common subsequence

Quicksort

For SELECT * FROM Employees WHERE Age > 30 AND Department

indexes optimize this query?

= 'Sales';, which

Age

Department

Both Age and Department

No index

Which format specifier is used to print an integer value using 'printf()' in C/C++?

%d

%f

%c

%s

Which format specifier is used for printing a single character using 'printf()' in C/C++?

%d

%f

%c

%s

The 'getch()' function in C/C++ is used for:

Displaying output to the console

Getting a character without echoing it

Reading input from a file

None of the above

The 'ungetc()' function in C/C++ is used for:

Putting a character back into input stream

Getting a character without echoing it

Displaying a character to the console

None of the above

Which ROS package can be used to interface a webcam with ROS?

rospack

image_transport

cv camera

rosserial

In C, what is the purpose of the •void' pointer?

It is a pointer that can only point to integers

It is a generic pointer that can point to any data type

It is a pointer used exclusively for dynamic memory allocation

It is a pointer that cannot be dereferenced

What is the purpose of the •const keyword when used with pointers in C?

It makes the pointer constant and cannot be modified

It makes the data pointed to by the pointer constant

It specifies that the pointer can only point to constant variables

It is not valid to use •const' with pointers.

What is the correct way to declare a function that takes a ID array of integers as an

argument in C?

*void myFunction(int arr[]);•

•void myFunction(int Warr);'

•void myFunction(int arr[5]);•

•void myFunction(int

Which problem-solving technique involves trying out all possible solutions and

"backtracking" when a solution is found to be invalid?

Greedy Algorithm

Divide and Conquer

Dynamic Programming

Backtracking

What is memoization in dynamic programming?

A technique to store computed results in a lookup table for future reference

A process of dividing a problem into smaller subproblems

A method to create a memo for each recursive function call

A strategy to optimise the use of memory in a dynamic programming algorithm

Which property indicates that a problem can be solved using dynamic programming?

Overlapping subproblems

Memoization

reedy choice property

Recursive decomposition

Given an undirected graph G with V vertices and E edges, the sum of the degrees of all vertices is:

E

2E

V

2V

What is the objective of the knapsack problem?

To get maximum total value in the knapsack

To get minimum total value in the knapsack

To get maximum weight in the knapsack

To get minimum weight in the knapsack

Hashing technique which allocates fixed number of buckets is classified as

dynamic hashing

static hashing

external hashing

internal hashing

Which operation is used to update the value of a specific node in a linked list?

Insertion

Deletion

Updation

Creation

Priority-Queue is implemented as a Max-Heap. Initially, it has 5 elements. The level-order traversal of the heap is given below: 10, 8, 5, 3, 2 Two new elements "1' and "7' are inserted in the heap in that order. The level-order traversal of the heap after the insertion of the elements is:

10, 8, 7, 5, 3, 2, 1

10, 8, 7, 2, 3, 1, 5

10, 8, 7, 1, 2, 3, 5

10, 8, 7, 3, 2, 1, 5

How many bits are needed for standard encoding if the size of the character set is X?

log X

X+1

2X

X^2

A strictly binary tree with 10 leaves

cannot have more than 19 nodes

has exactly 19 nodes

has exactly 17 nodes

cannot have more than 17 nodes