1. **What is the output of the following code?**

#include <stdio.h>

int main() {

char str[] = "Hello";

printf("Length: %d", length(str));

return 0;

}

int length(char s[]) {

int len = 0;

while (s[len] != '\0') {

len++;

}

return len;

}

**2. Which of the following function declarations is incorrect in C?**

a) int add(int a, int b);

b) float calculate(float x, float y);

c) void printMessage(char \*msg);

d) char \*getName();

**3. How can a function pointer be used to implement a basic calculator in C?**

a) Use a switch statement inside a function and call different functions based on user input.

b) Use an array of function pointers, each corresponding to a different operation.

c) Implement separate functions for each operation and call them directly based on user input.

d) Function pointers cannot be used for implementing a calculator.

**4. Consider the following code:**

char str[] = "Hello";

char \*ptr = str;

printf("%c", \*(ptr + 1));

What will be the output?

a) H

b) e

c) l

d) o

1. **Can a function have multiple return statements?**
2. **What will be the value of ptr after this code?**

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

int \*ptr = arr + 1;

a) 1 b) 2 c) The address of arr[1] d) Compile-time error

1. **What is the output of printf("%d", (int) 3.14);?**

a) 3 b) 4 c) Compile-time error d) Undefined behavior

1. **What is the output of the following code?**

#include <stdio.h>

int main() {

int a, b = 0;

static int c[10] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10};

for (a = 0; a < 10; ++a)

if ((a % 2) == 0) b += c[a];

printf("%d", b);

return 0;

}

1. **Print the following pyramid pattern for the given number. (e.g. for n=4)**

1

121

12321

1234321

**10. Write correct declarations for each group of variables and arrays.**

a.      10-element character array: text

b.      integer variable: big = 56789

c.   floating-point variables: a =-5.2333, b = 0.006, approximated to 2 decimal points

**11.** **Write a program to compute and display the sum of all integers that are divisible by 6 but not**

**divisible by 4 and lie between 0 and 100. The program should also count and display the number**

**of such values**

**12. Using function of a return value and an argument, calculate the area, perimeter of a square**

Enter the side length

Pass it to separate functions to calculate area and perimeter and print them in main function after receiving the result