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Assignment No. 1

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Registration Number - 23652008

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Course Code - OBC106

Course Title - C Programming Lab

### PART - A

Q1. \_\_\_\_\_ are not part of the executable code.

Ans (A) Comments or Documentation Section

Q2. Lines starting with # are processed by the \_\_\_\_\_.

Ans (B) Preprocessor

Q3. \_\_\_\_\_ function is used to read a single character from any standard input device.

Ans (A) getchar()

Q4. \_\_\_\_\_ function is used to write a single character to any standard output device.

Ans (B) putchar()

Q5. Once \_\_\_\_\_ are defined their values cannot be modified.

Ans (A) Literals

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Q6. \_\_\_\_\_ is an object or element that may change during the execution of the program.

Ans (B) variables

Q7. \_\_\_\_\_ data type stores double-precision floating-point numbers.

Ans (D) double

Q8. The \_\_\_\_\_ statement is also known as a one-way branch.

Ans (A) if

Q9. \_\_\_\_\_ is generally used when we know the number of iterations in advance.

Ans (A) For loop

Q10. The condition is checked at the beginning (pre-test) itself, it is \_\_\_\_\_.

Ans (B) While Loop

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Q11. The 2 types of goto jumps are \_\_\_\_\_ and \_\_\_\_\_ ]

Ans (A) Forward and reverse

Q12. Which return type cannot return any value to the caller.

Ans (C) void

Q13. Memory is allocated for a function when the function is \_\_\_\_\_ .

Ans (C) called

Q14. Variables declared inside a function are known as \_\_\_\_\_ .

Ans (A) Local

Q15. By default, the return type of the function is \_\_\_\_\_ .

Ans (B) int

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Q16. To fetch the address of the variable we precede it with \_\_\_\_\_ sign before variable name.

Ans (G) & → Ampersand

Q17. Pointer is \_\_\_\_\_.

Ans (G) a variable that stores address of other variables

Q18. Null pointer and void pointer are the same.

Ans (B) False

Q19. The address stored in the pointer variable are of the type \_\_\_\_\_.

Ans (E) Integer

Q20. It is possible to omit the mention of the \_\_\_\_\_ of the array at the time of initialization.

Ans (C) Size

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Q1.

PART - B

Write a program in C to read  $n$  number of values in an array and display it in reverse order.

Ans 1

```
#include <stdio.h>

int main() {
    int n;
    printf("Enter total number you want to read: ");
    scanf("%d", &n);

    printf("Enter elements: \n");
    int arr[n];
    for (int i=0; i < n; i++) {
        scanf("%d", &arr[i]);
    }

    printf("values in reverse order: \n");
    for (int i = n-1; i >= 0; i--) {
        printf("%d", arr[i]);
    }
    return 0;
}
```

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}

Q2. Write a program in C to find the sum of all elements of the array.

Ans 2

```
#include <stdio.h>
```

```
int main() {  
    int n;
```

```
    printf("Enter total number you want to perform sum  
          for: ");  
    scanf("%d", &n);
```

```
    printf("Enter elements: \n");  
    int arr[n];
```

```
    for (int i = 0; i < n; i++) {  
        scanf("%d", &arr[i]);  
    }
```

```
    int sum = 0;  
    for (int i = 0; i < n; i++) {  
        sum = sum + arr[i];  
    }
```

```
    printf("Sum is: %d\n", sum);  
    return 0;
```

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Q5. Write a program to swap value of two variables using pointer.

Ans 5

```
#include <stdio.h>
```

```
void swap(int *a, int *b) {  
    int temp = *a;  
    *a = *b;  
    *b = temp;  
}
```

```
int main() {  
    int num1, num2;  
  
    // Read two numbers  
    printf("Enter two values space separated: ");  
    scanf("%d %d", &num1, &num2);
```

```
    printf("Values before swapping: \n");  
    printf("Variable 1: %d\n", num1);  
    printf("Variable 2: %d\n", num2);
```

```
// Swapping values  
swap(&num1, &num2);
```

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```
// Display values after swapping  
printf ("\\nValues after swapping: \\n");  
printf ("Variable 1: %d\\n", num1);  
printf ("Variable 2: %d\\n", num2);  
  
return 0;
```

}

Q6. Write a C program to demonstrate the concept of structures.

Ans 6

```
#include <stdio.h>  
  
struct Student {  
    char name[50];  
    int age;  
    float height;  
};  
  
int main() {  
    struct Student student1;  
    printf ("Enter name: ");  
    scanf ("%[^\\n]s", &student1.name);
```

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```
printf("Enter age: ");
```

```
scanf("%d", &student1.age);
```

```
printf("Enter height (in meters); ");
```

```
scanf("%f", &student1.height);
```

```
printf("\nPerson Information:\n");
```

```
printf("Name: %s\n", student1.name);
```

```
printf("Age: %d\n", student1.age);
```

```
printf("Height: %.2f meters\n", student1.height);
```

```
return 0;
```

```
}
```

Q7. Write a C program to delete a substring from a string.

Ans 7

```
#include <stdio.h>
```

```
#include <string.h>
```

```
// Function to delete substring from a string
```

```
void deleteSubstring(char *str, const char *sub) {
```

```
    int len = strlen(sub);
```

```
    char *ptr;
```

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```
// Find the first occurrence of the substring
while ((ptr = strstr(str, sub)) != NULL) {
    // Shift characters to the left to delete the substring
    memmove(ptr, ptr + len, strlen(ptr + len) + 1);
```

}

}

```
int main() {
    char inputString[100], substring[50];

    // Read the input string
    printf("Enter a string: ");
    fgets(inputString, sizeof(inputString), stdin);
    inputString[strcspn(inputString, "\n")] = '\0'; // Remove
    newline character
```

```
    // Read the substring to be deleted
    printf("Enter the substring to delete: ");
    fgets(substring, sizeof(substring), stdin);
    substring[strcspn(substring, "\n")] = '\0'; // Remove
    newline character
```

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// Call the function to delete the subscribe  
deleteSubstring(inputString, substring);

// Display the modified string

printf("String after deleting '%s': %s\n", substring,  
inputString);

return 0;

}