

Functions in string.h with Examples

Note: 1 - 10 (Important), rest can be ignored

1. `strlen()` – Find the length of a string

```
#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "Hello, World!";
    printf("Length: %lu\n", strlen(str));
    return 0;
}
```

2. `strcpy()` – Copy one string to another

```
#include <stdio.h>
#include <string.h>
int main() {
    char src[] = "Oyster";
    char dest[10];
    strcpy(dest, src);
    printf("Copied String: %s\n", dest);
    return 0;
}
```

3. `strncpy()` – Copy specified characters of one string to another

```

#include <stdio.h>
#include <string.h>
int main() {
    char src[] = "Oysterkode";
    char dest[6];
    strncpy(dest, src, 5);
    dest[5] = '\0'; // Ensure null termination
    printf("Copied String: %s\n", dest);
    return 0;
}

```

4. strcmp () – Compare two strings

```

#include <stdio.h>
#include <string.h>
int main() {
    char str1[] = "Hello";
    char str2[] = "World";
    int result = strcmp(str1, str2);
    printf("Comparison Result: %d\n", result);
    return 0;
}

```

5. strncmp () – Compare first N characters of two strings

```

#include <stdio.h>
#include <string.h>
int main() {
    char str1[] = "Hello";
    char str2[] = "Hell";
    int result = strncmp(str1, str2, 4);
    printf("Comparison Result: %d\n", result);
    return 0;
}

```

6. strcat () – Concatenate two strings

```

#include <stdio.h>
#include <string.h>
int main() {
    char str1[20] = "Oyster";
    char str2[] = "Kode";
    strcat(str1, str2);
    printf("Concatenated String: %s\n", str1);
    return 0;
}

```

7. `strncat()` – Concatenate specified characters of a string

```

#include <stdio.h>
#include <string.h>
int main() {
    char str1[20] = "Oyster";
    char str2[] = "Kode";
    strncat(str1, str2, 3);
    printf("Concatenated String: %s\n", str1);
    return 0;
}

```

8. `strchr()` – Find first occurrence of a character in a string

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "Hello, World!";
    char *ptr = strchr(str, 'W');
    if (ptr)
        printf("Found at position: %ld\n", ptr - str);
    return 0;
}

```

9. `strrchr()` – Find last occurrence of a character in a string

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "Hello, World!";
    char *ptr = strrchr(str, 'o');
    if (ptr)
        printf("Found at position: %ld\n", ptr - str);
    return 0;
}

```

10. strstr() – Find a substring inside a string

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "Oysterkode is awesome!";
    char *ptr = strstr(str, "kode");
    if (ptr)
        printf("Substring found at: %ld\n", ptr - str);
    return 0;
}

```

11. strtok() – Tokenize a string using delimiters

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "Hello,World,From,C";
    char *token = strtok(str, ",");
    while (token != NULL) {
        printf("%s\n", token);
        token = strtok(NULL, ",");
    }
    return 0;
}

```

12. memset() – Fill memory with a specific value

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[20] = "Oysterkode";
    memset(str, '*', 5);
    printf("Modified String: %s\n", str);
    return 0;
}

```

13. memcpy () – Copy memory block

```

#include <stdio.h>
#include <string.h>
int main() {
    char src[] = "Oysterkode";
    char dest[20];
    memcpy(dest, src, strlen(src) + 1);
    printf("Copied String: %s\n", dest);
    return 0;
}

```

14. memmove () – Move memory block (safe for overlapping memory)

```

#include <stdio.h>
#include <string.h>
int main() {
    char str[] = "HelloWorld";
    memmove(str + 5, str, 5);
    printf("Modified String: %s\n", str);
    return 0;
}

```

15. memcmp () – Compare memory blocks

```
#include <stdio.h>
#include <string.h>
int main() {
    char str1[] = "Hello";
    char str2[] = "Hello";
    int result = memcmp(str1, str2, 5);
    printf("Comparison Result: %d\n", result);
    return 0;
}
```