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Chapter 1

Hello World

1.1 Something

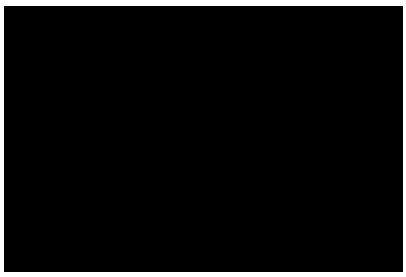

Figure 1.1: Test

[[[[[

#include <stdio.h>

int main()

printf("Hello, World!");

return 0;

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

// Function to create and print a dynamic array
void create_and_print_array(size_t size)
// Allocate memory
int *array = (int *)malloc(size * sizeof(int));
if (array == NULL)
printf("Memory allocation failed!\n");
return;


// Initialize array
```

```
for (size_t i = 0; i < size; i++)
array[i] = i * 2; // Example initialization


// Print array
printf("Array elements:\n");
for (size_t i = 0; i < size; i++)
printf("%d ", array[i]);

printf("\n");

// Free allocated memory
free(array);


// Function to test string manipulation
void manipulate_string()
// Allocate memory for a string
char *str = (char *)malloc(50 * sizeof(char));
if (str == NULL)
printf("Memory allocation failed!\n");
return;


// Copy and manipulate the string
strcpy(str, "Hello, World!");
printf("Original string:  %s\n", str);

// Concatenate a string
strcat(str, " How are you?");
printf("Concatenated string:  %s\n", str);

// Free allocated memory
free(str);


int main()
// Test dynamic array creation and manipulation
size_t array_size = 10;
create_and_print_array(array_size);

// Test string manipulation
manipulate_string();
```

```
return 0;
```