

Object Oriented Paradigm

Lab 02

Topic(s): Arrays, Pointers & Classes

Question No. 01

Create a menu driven C++ program with the following functions:

- **int strlen(char *s1)**
Returns the length of a character array.
- **char* strcpy(char *s1, char *s2)**
Copies all characters of string s2 into array s1. The value of s1 is returned.
- **char* strncpy(char *s1, char *s2, int n)**
Copies at most n characters of string s2 into array s1. The value of s1 is returned.
- **char* strncat(char *s1, const char *s2, int n)**
Appends at most n characters of string s2 to array s1. The first character of s2 overwrites the terminating null character of s1. The value of s1 is returned.
- **int strcmp(const char *s1, const char *s2);**
Compares the string s1 with the string s2. The function returns 0 if the two strings match and 1, if they don't.
- **int strncmp(const char *s1, const char *s2, int n);**
Compares up to n characters of the string s1 with the string s2. The function returns 0 if the two strings match and 1, if they don't.
- **char* strchr(const char *s, char c);**
Locates the last occurrence of c in string s. If c is found, a pointer to c in string s is returned. Otherwise, a NULL pointer is returned.
- **char* strstr(const char *s1, const char *s2);**
Locates the first occurrence in string s1 of string s2. If the string is found, a pointer to the string in s1 is returned. Otherwise, a NULL pointer is returned.

Question No. 02

Create a class Rectangle. The class has attributes length and width, each of which defaults to 1. It has member functions that calculate the perimeter and the area of the rectangle. It has set and get functions for both length and width. The set functions should verify that length and width are each floating-point numbers larger than 0.0 and less than 20.0.