**Q.1**

#include <iostream>

int main() {

for (int i = 1; i <= 100; ++i) {

if (i % 3 == 0 && i % 5 == 0) {

std::cout << "FizzBuzz ";

} else if (i % 3 == 0) {

std::cout << "Fizz ";

} else if (i % 5 == 0) {

std::cout << "Buzz ";

} else {

std::cout << i << " ";

}

}

std::cout << std::endl;

return 0;

}

OUT PUT

1 2 Fizz 4 Buzz Fizz 7 8 Fizz Buzz 11 Fizz 13 14 FizzBuzz 16 17 Fizz 19 Buzz Fizz 22 23 Fizz Buzz 26 Fizz 28 29 FizzBuzz 31 32 Fizz 34 Buzz Fizz 37 38 Fizz Buzz 41 Fizz 43 44 FizzBuzz 46 47 Fizz 49 Buzz Fizz 52 53 Fizz Buzz 56 Fizz 58 59 FizzBuzz 61 62 Fizz 64 Buzz Fizz 67 68 Fizz Buzz 71 Fizz 73 74 FizzBuzz 76 77 Fizz 79 Buzz Fizz 82 83 Fizz Buzz 86 Fizz 88 89 FizzBuzz 91 92 Fizz 94 Buzz Fizz 97 98 Fizz Buzz

Q. 2

#include <iostream>

int main() {

int x1 = 0, x2 = 1, nextTerm = 0;

std::cout << "Fibonacci Sequence up to 100:" << std::endl;

while (x1 <= 100) {

std::cout << x1 << " ";

nextTerm = x1 + x2;

x1 = x2;

x2 = nextTerm;

}

std::cout << std::endl;

return 0;

}

OUTPUT

0 1 1 2 3 5 8 13 21 34 55 89

Q.3

#include <iostream>

bool isPowerOfTwo(int num) {

if (num <= 0) {

return false;

}

return (num & (num - 1)) == 0;

}

int main() {

int num;

std::cout << "Enter an integer: ";

std::cin >> num;

if (isPowerOfTwo(num)) {

std::cout << num << " true." << std::endl;

} else {

std::cout << num << " false." << std::endl;

}

Return 0;

Q.4

#include <iostream>

#include <sstream>

std::string capitalizeWords(const std::string& input) {

std::istringstream iss(input);

std::ostringstream oss;

std::string word;

while (iss >> word) {

if (!word.empty()) {

word[0] = std::toupper(word[0]);

oss << word << " ";

}

}

return oss.str();

}

int main() {

std::string input;

std::cout << "Enter a string: ";

std::getline(std::cin, input);

std::string result = capitalizeWords(input);

std::cout << "Capitalized string: " << result << std::endl;

return 0;

}

Q.5

#include <iostream>

int reverseInteger(int num) {

int reversedNum = 0;

while (num != 0) {

int digit = num % 10;

reversedNum = reversedNum \* 10 + digit;

num /= 10;

}

return reversedNum;

}

int main() {

int num;

std::cout << "Enter an integer: ";

std::cin >> num;

int reversedNum = reverseInteger(num);

std::cout << "Reversed integer: " << reversedNum << std::endl;

return 0;

}

Q.6

#include <iostream>

#include <string>

#include <cctype> // for std::tolower

int countVowels(const std::string& sentence) {

int vowelCount = 0;

for (char c : sentence) {

// Convert character to lowercase for case-insensitive comparison

char lowercaseChar = std::tolower(c);

// Check if the character is a vowel

if (lowercaseChar == 'a' || lowercaseChar == 'e' || lowercaseChar == 'i' ||

lowercaseChar == 'o' || lowercaseChar == 'u') {

vowelCount++;

}

}

return vowelCount;

}

int main() {

std::string sentence;

std::cout << "Enter a sentence: ";

std::getline(std::cin, sentence);

int vowelCount = countVowels(sentence);

std::cout << "Number of vowels in the sentence: " << vowelCount << std::endl;

return 0;

}