CAPESTONE PROJECT : SENTIMENT ANALYSIS

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WHAT IS SENTIMENT ANALYSIS???

- A way to use computers to understand the emotions or opinions behind words, like determining if a review or comment is positive, negative, or neutral.

- - Helps computers understand human emotions and opinions- Analyzes text data, like reviews, comments, and social media posts..

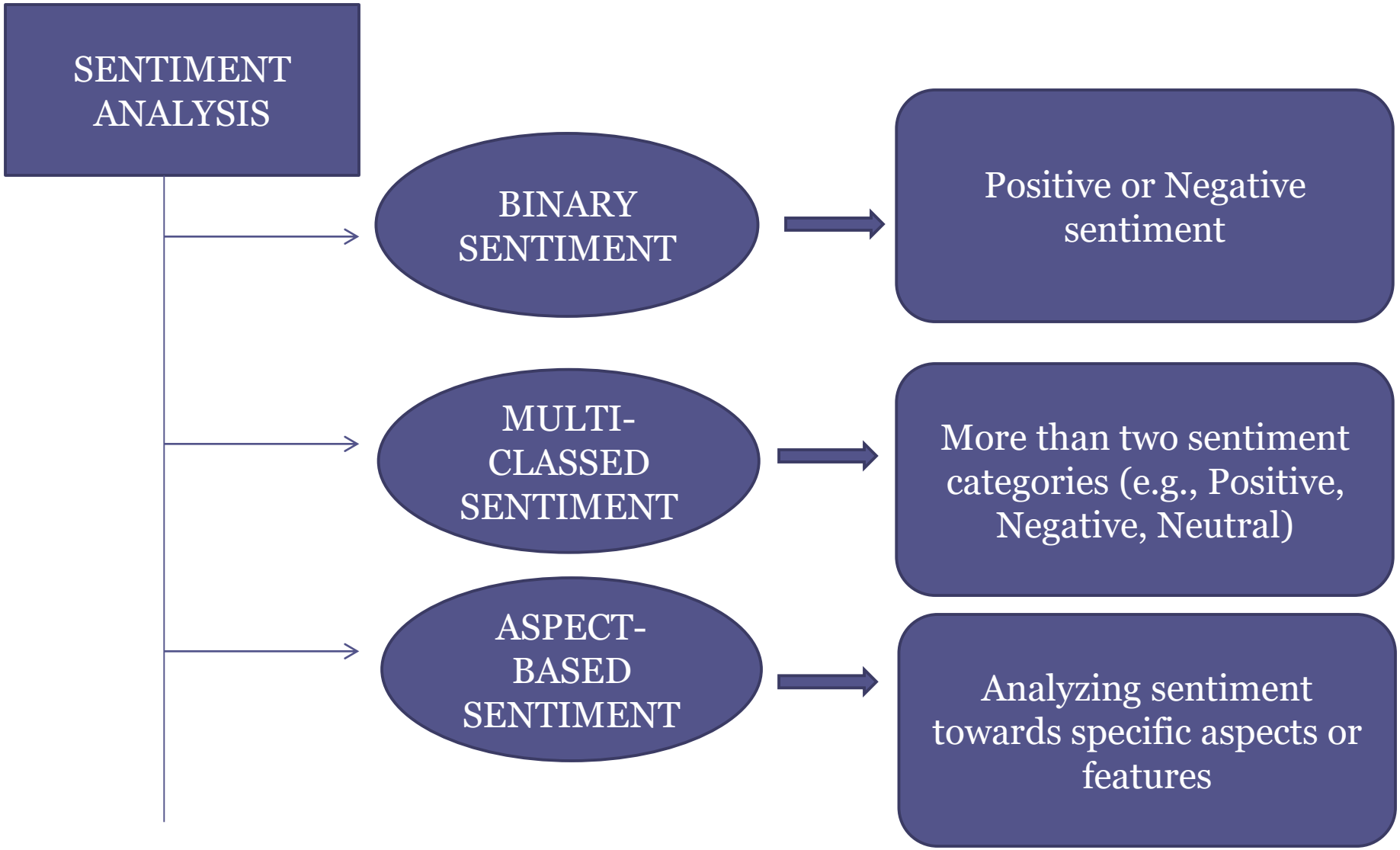
- Determines if the sentiment is: - Positive (happy, good, excellent) - Negative (sad, bad, terrible) - Neutral (no emotion or opinion).

- Uses Natural Language Processing (NLP) and Machine Learning algorithms..

IMPORTANCE OF SENTIMENT ANALYSIS..

- Understand customer opinions and preferences.
- Gain competitive advantage.
- Manage reputation and risks.
- Inform business decisions with data
- Enhance customer experience.
- Drive product development and improvement

TYPES OF SENTIMENT ANALYSIS!!



REAL-TIME EXAMPLES!!!

- - Product Review Analysis (e.g., Amazon, Yelp)
- - Social Media Monitoring (e.g., brand reputation, customer feedback)
- - Customer Feedback Analysis (e.g., surveys, support tickets)
- - Market Research (e.g., understanding consumer opinions)
- - Political Sentiment Analysis (e.g., election polls, public opinion)

amazon

ADVANTAGES & DISADVANTAGES!!

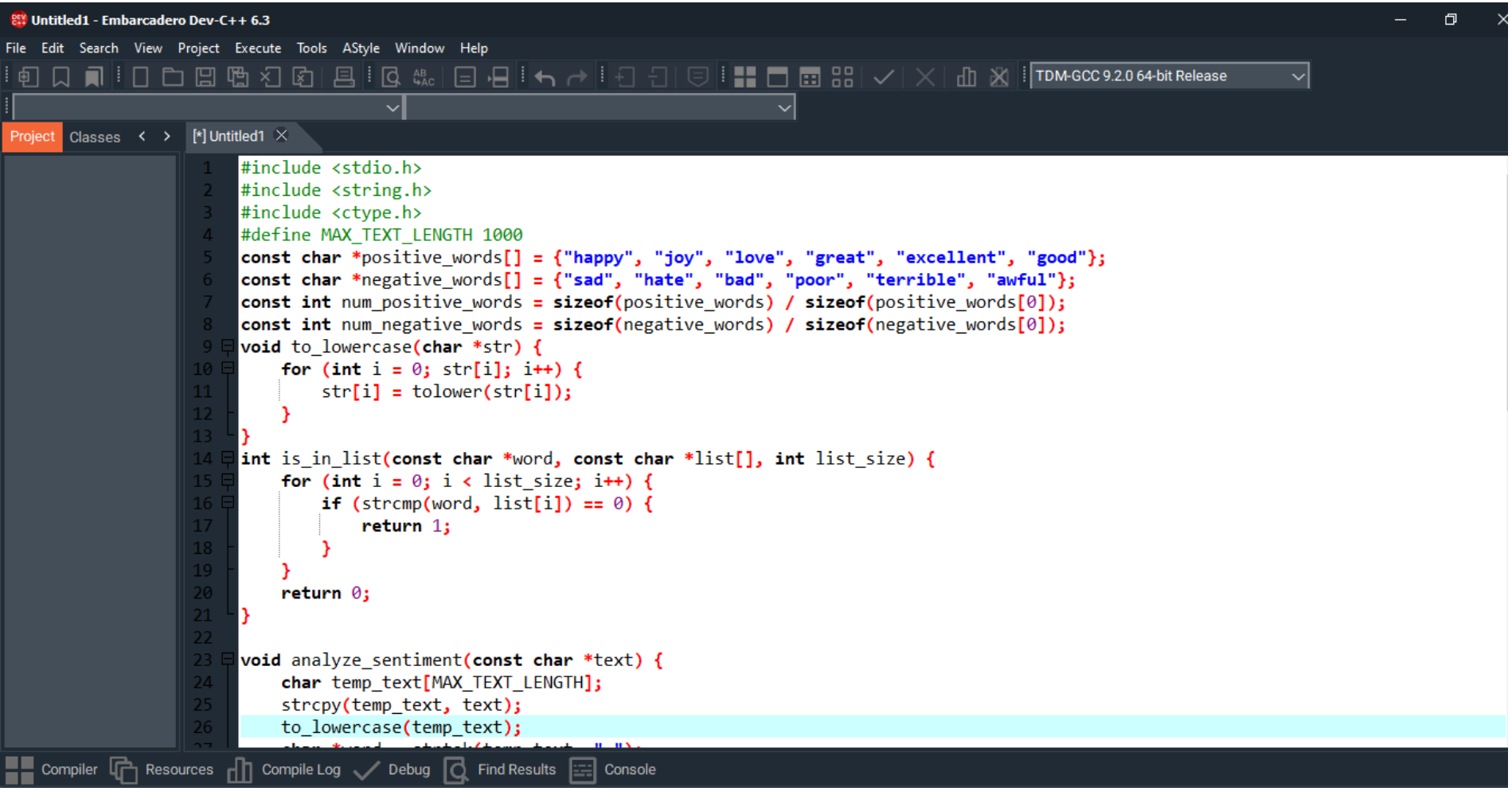
- **Advantages:**

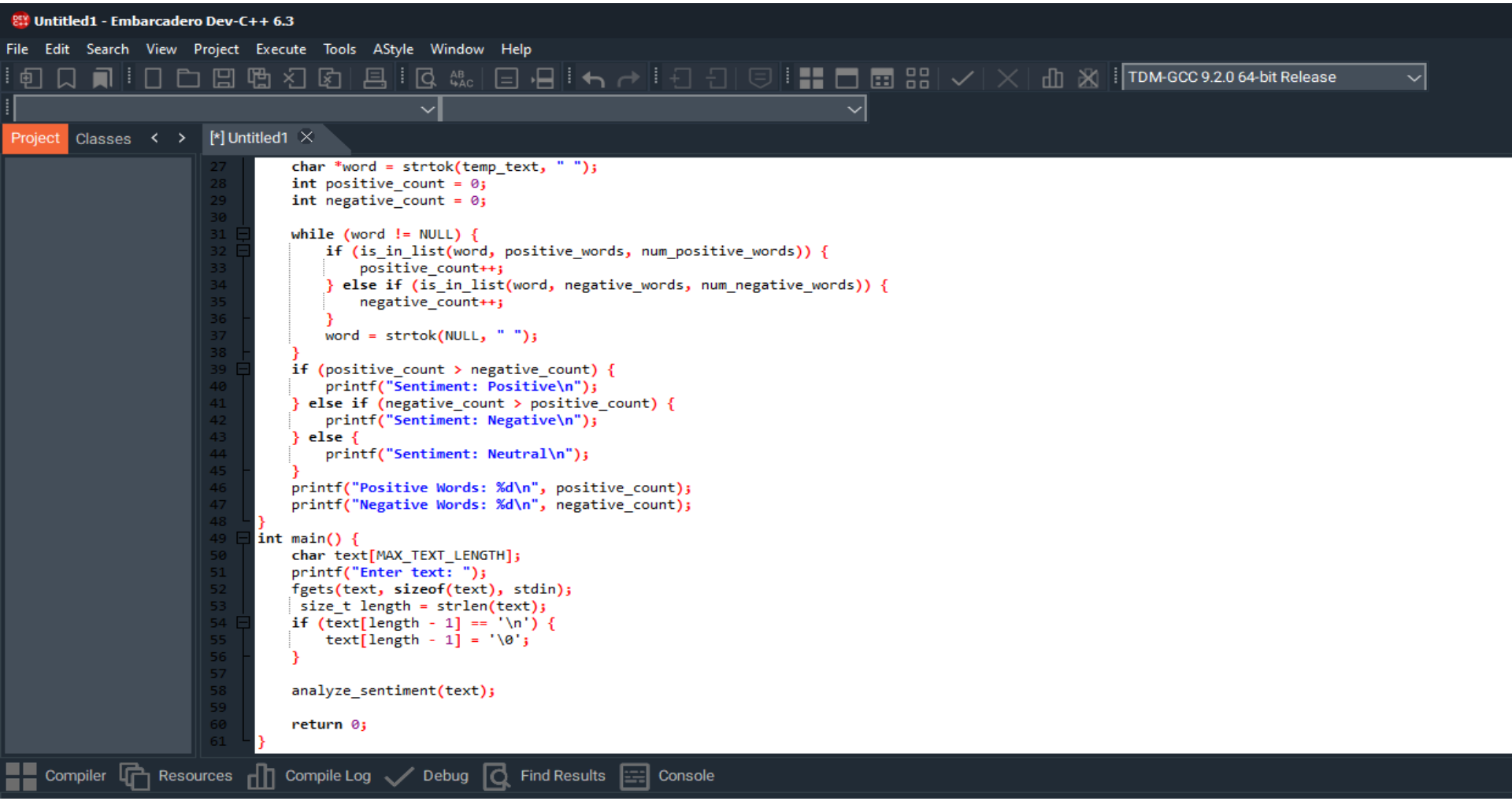
→ Customer Insights
→ Competitive Advantage
→ Improved Decision Making
→ Enhanced Customer Experience
→ Market Research
→ Product Development

- **Disadvantages:**

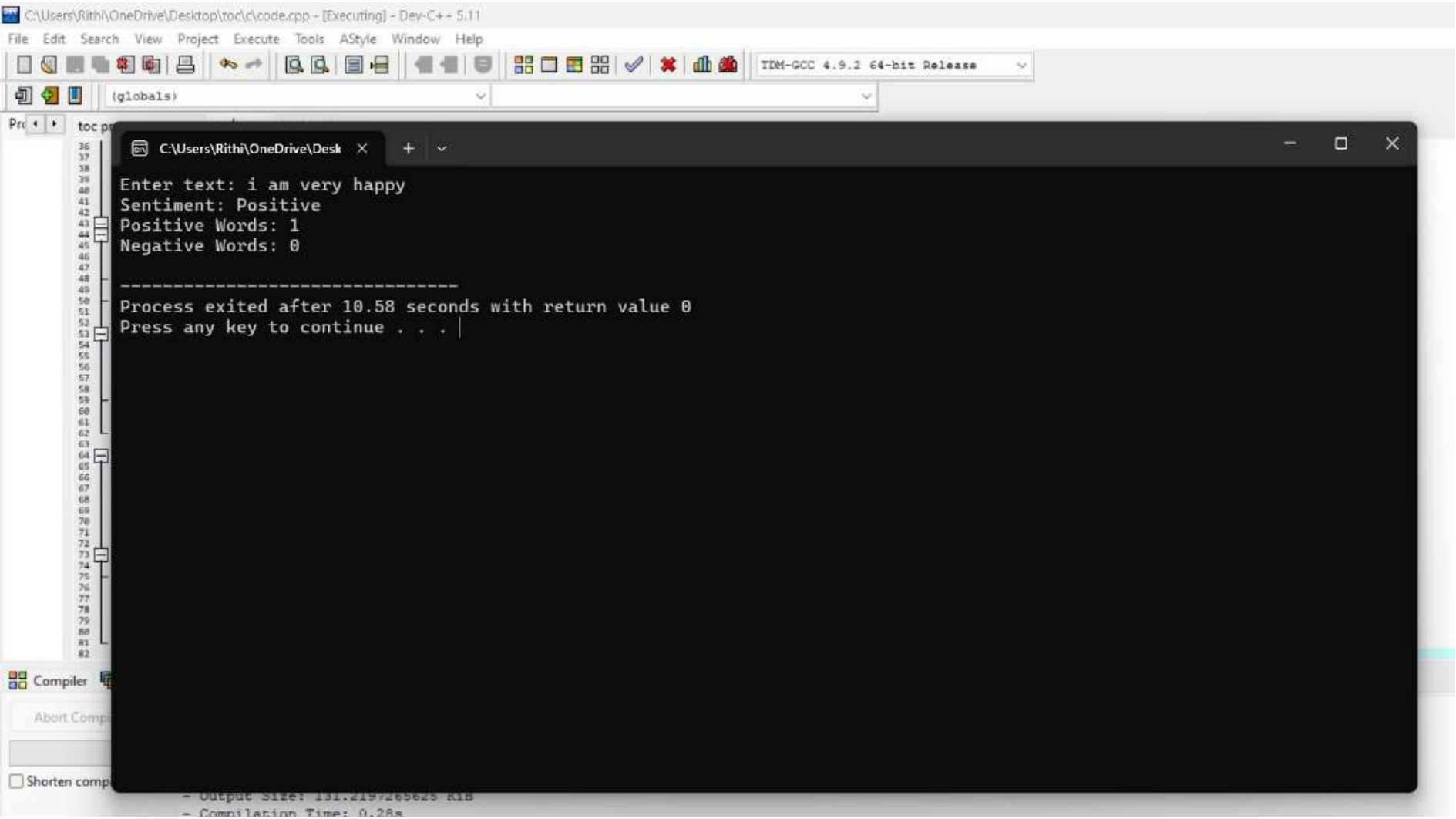
→ Accuracy Issues
↳ Inaccurate models
↳ Contextual understanding challenges
→ Data Quality Issues
↳ Poor data quality
↳ Biased or noisy data
→ Interpretation Challenges↳ Requires domain expertise→ Dependence on Data↳ Requires large amounts of data

CODE:


Untitled1 - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
Project Classes
[*] Untitled1
#include <stdio.h>
#include <string.h>
#include <ctype.h>
#define MAX_TEXT_LENGTH 1000
const char *positive_words[] = {"happy", "joy", "love", "great", "excellent", "good"};
const char *negative_words[] = {"sad", "hate", "bad", "poor", "terrible", "awful"};
const int num_positive_words = sizeof(positive_words) / sizeof(positive_words[0]);
const int num_negative_words = sizeof(negative_words) / sizeof(negative_words[0]);
void to_lowercase(char *str) {
for (int i = 0; str[i]; i++) {
str[i] = tolower(str[i]);
}
}
int is_in_list(const char *word, const char *list[], int list_size) {
for (int i = 0; i < list_size; i++) {
if (strcmp(word, list[i]) == 0) {
return 1;
}
}
return 0;
}
void analyze_sentiment(const char *text) {
char temp_text[MAX_TEXT_LENGTH];
strcpy(temp_text, text);
to_lowercase(temp_text);
Compiler Resources Compile Log Debug Find Results Console


Untitled1 - Embarcadero Dev-C++ 6.3
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 9.2.0 64-bit Release
Project Classes
[*] Untitled1
char *word = strtok(temp_text, " ");
int positive_count = 0;
int negative_count = 0;
while (word != NULL) {
if (is_in_list(word, positive_words, num_positive_words)) {
positive_count++;
} else if (is_in_list(word, negative_words, num_negative_words)) {
negative_count++;
}
word = strtok(NULL, " ");
}
if (positive_count > negative_count) {
printf("Sentiment: Positive\n");
} else if (negative_count > positive_count) {
printf("Sentiment: Negative\n");
} else {
printf("Sentiment: Neutral\n");
}
printf("Positive Words: %d\n", positive_count);
printf("Negative Words: %d\n", negative_count);
}
int main() {
char text[MAX_TEXT_LENGTH];
printf("Enter text: ");
fgets(text, sizeof(text), stdin);
size_t length = strlen(text);
if (text[length - 1] == '\n') {
text[length - 1] = '\0';
}
analyze_sentiment(text);
return 0;
}
Compiler Resources Compile Log Debug Find Results Console

OUTPUT:


C:\Users\Rithi\OneDrive\Desktop\toc\c\code.cpp - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
C:\Users\Rithi\OneDrive\Desk
Enter text: i am very happy
Sentiment: Positive
Positive Words: 1
Negative Words: 0

Process exited after 10.58 seconds with return value 0
Press any key to continue . . .
Compiler
Shorten comp


THANK YOU