***Classification of Events***

**True Positives (TP) - Correct Predictions by LLM**

These are events that the LLM correctly predicted and also happened during Operation Cast Lead.

| **Event** | **Definition** |
| --- | --- |
| The operation was initiated by Israel | The Israeli Defense Forces (IDF) launched the operation in response to ongoing rocket attacks from Hamas-controlled Gaza. |
| The conflict involved heavy aerial bombardments | The IDF used airstrikes extensively against Hamas targets, including military infrastructure and leadership figures. |
| The conflict included a ground invasion by the IDF | After an initial air campaign, the Israeli military launched a ground offensive into Gaza. |
| Urban warfare played a significant role | The fighting occurred in densely populated urban areas, making military operations complex and increasing civilian casualties. |
| Hamas used underground tunnel networks | Hamas relied on an extensive system of tunnels for smuggling, movement, and surprise attacks. |
| Rocket attacks from Gaza targeted Israeli cities | Hamas launched thousands of rockets into Israeli territory, reaching major cities such as Ashkelon and Beersheba. |
| Israel enforced a blockade on Gaza during the conflict | The blockade limited access to supplies, with Israel controlling border crossings and restricting movements. |
| The conflict caused high civilian casualties | Both Israeli and Palestinian civilian casualties were reported, drawing international criticism. |
| International criticism and calls for ceasefire increased as the conflict progressed | Human rights organizations and governments pressured Israel to end the offensive due to humanitarian concerns. |
| The operation ended with a unilateral ceasefire by Israel | The IDF declared a ceasefire after achieving its objectives, but Hamas also declared "victory" despite losses. |

Total True Positives (TP): **10**

**False Positives (FP) - Incorrect Predictions by LLM**

These are events that the LLM predicted but did NOT actually happen in Operation Cast Lead.

| **Event** | **Why It Did NOT Happen?** |
| --- | --- |
| The conflict resulted in a negotiated peace settlement | No formal peace agreement resulted from Operation Cast Lead. Instead, Israel declared a unilateral ceasefire. |
| A large-scale prisoner exchange occurred as part of the resolution | Prisoner exchanges happened later in other conflicts but were not part of this operation’s conclusion. |
| The IDF suffered high casualties due to Hamas counterattacks | While there were some Israeli military casualties, Hamas did not inflict severe losses on IDF forces. |
| Hamas gained significant territorial control as a result of the battle | Hamas remained in control of Gaza, but lost key military infrastructure and suffered heavy damage. |
| Israel attempted to occupy Gaza permanently | Israel did not aim for a long-term occupation; the operation was limited in duration and objectives. |
| Naval battles played a major role in the conflict | While Israel enforced a naval blockade, there were no large-scale naval battles or direct naval engagements. |
| The conflict led to immediate political change in Israel or Gaza | The Israeli government and Hamas leadership remained unchanged after the battle. |
| Israel’s air campaign targeted key Hamas allies outside Gaza | The operation was confined to Gaza, with no major strikes on Hamas allies in other countries. |

Total False Positives (FP): **8**

**False Negatives (FN) - Missed Predictions by LLM**

These are real events that happened during Operation Cast Lead but were NOT predicted by the LLM.

| **Event** | **Definition** |
| --- | --- |
| The operation was partly in response to a ceasefire breakdown | A previous ceasefire between Hamas and Israel collapsed before the operation began. |
| Media coverage and information warfare played a major role | Both sides engaged in heavy propaganda efforts, with international media influencing public perception. |
| Use of white phosphorus by Israel sparked controversy | Israel’s use of white phosphorus munitions led to international outcry and legal debates. |
| Hamas attempted to smuggle weapons through tunnels during the conflict | Tunnels were not just used for movement but also for smuggling arms into Gaza. |
| Cyber warfare and intelligence operations influenced the conflict | Israel conducted cyber and electronic warfare to disrupt Hamas communications and operations. |
| Hamas’ rocket capabilities had increased in range and effectiveness | During the war, Hamas demonstrated an expanded ability to strike further into Israel than in previous conflicts. |
| Hamas executed suspected collaborators in Gaza | Reports indicated that Hamas targeted and killed individuals suspected of cooperating with Israel. |
| The war had long-term impacts on Israel-Gaza relations | The conflict did not resolve hostilities but shaped future military and political dynamics between the two sides. |
| International legal actions were taken against Israel after the war | The UN’s Goldstone Report accused Israel of war crimes, adding legal and diplomatic pressure. |

Total False Negatives (FN): **9**

***Final Results***

| **Metric** | **Value** |
| --- | --- |
| Total True Positives (TP) | **10** |
| Total False Positives (FP) | **8** |
| Total False Negatives (FN) | **9** |
| Precision | **55.56%** |
| Recall | **52.63%** |
| F1-Score | **54.02%** |

***Critical Analysis of LLM’s Prediction***

1. Major Issue: The LLM Predicted the Wrong Winner

* The LLM incorrectly assumed Hamas won, when in reality, Israel achieved its operational goals and declared victory.
* Hamas suffered heavy losses, but continued to govern Gaza and claimed a symbolic victory.

2. Strengths in LLM’s Predictions

Correctly identified major aspects of the battle:

* Israeli airstrikes and ground invasion were central to the conflict.
* Hamas’ use of tunnels and rocket attacks played a significant role.
* The conflict drew heavy international scrutiny and legal debates.
* The war ended with a unilateral ceasefire rather than a formal peace agreement.

3. Weaknesses in LLM’s Predictions

Missed key elements that shaped the war’s long-term effects:

* Did not mention the ceasefire breakdown that triggered the conflict.
* Ignored the role of cyber warfare and intelligence operations.
* Overlooked the impact of propaganda and media influence.

Invented historical inaccuracies:

* There was no negotiated peace settlement.
* Naval battles did not play a major role.
* Israel did not suffer heavy military casualties.

***Final Verdict***

* The LLM’s prediction was weak (~54.02% F1-score) due to incorrect outcome prediction and missing key historical elements.
* Improving recall (identifying more real-world details) and correcting historical inaccuracies would significantly improve future assessments.