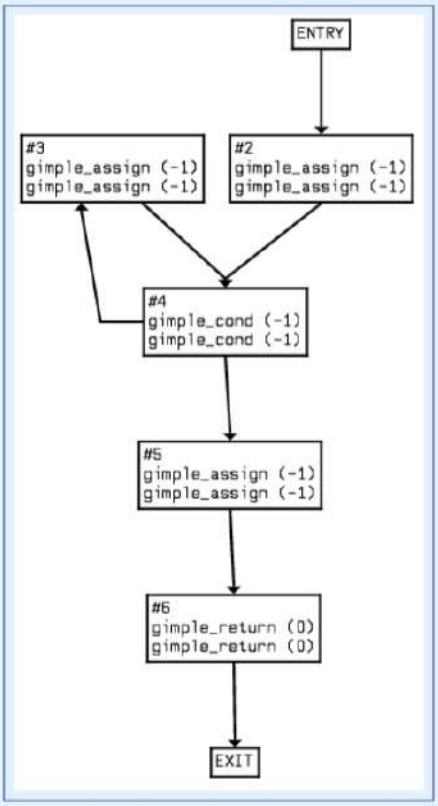


Results & Discussions

The figure above shows the CFG of the program whose basic blocks are as follows:

```
;; Function main (main)

Merging blocks 5 and 6
main (int argc, char * * argv)
{
  int n;
  int sum;
  int i;
  int D.1710;
  const char * restrict D.1709;

<bb 2>:
  n = 10;
  sum = 0;
  i = 1;
  goto <bb 4>;

<bb 3>:
  sum = sum + i;
  i = i + 1;

<bb 4>:
  if (i ≤ n)
    goto <bb 3>;
  else
    goto <bb 5>;

<bb 5>:
  D.1709 = (const char * restrict) "Sum of first %d natural numbers is: %d\n";
  printf (D.1709, n, sum);
  D.1710 = 0;
  return D.1710;

}
```

exercise 1

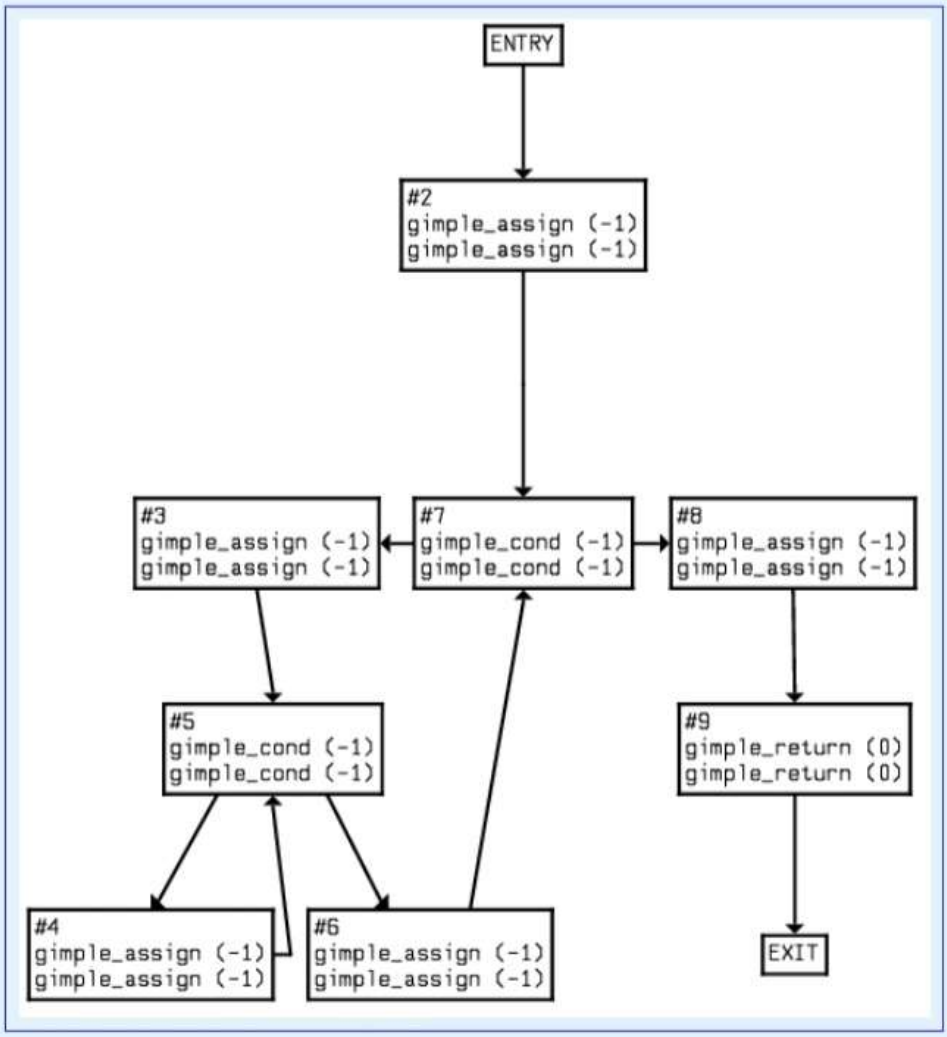
To determine McCabe's cyclomatic complexity, we observe that

- **E** = # of edges = 7
- **N** = # of nodes = 7 (including the ENTRY and EXIT nodes)

So, the cyclomatic complexity becomes:

```
V(G) = E - N + 2
     = 7 - 7 + 2
     = 2
```

Screenshot



Results & Discussions

The linearly independent paths for the above shown CFG are:

- 2 - 7 - 8 - 9
- 2 - 7 - 3 - 5 - 6 - 7 - 8 - 9
- 2 - 7 - 3 - 5 - 4 - 5 - 6 - 7 - 8 - 9

exercise 2