#include <iostream>

using namespace std;

int main() {

int num;

cout << "Enter any Number :";

cin >> num;

if (num > 0 && num <= 100) {

cout << "Number is between 1-100";

}

else if (num > 100 && num <= 1000) {

cout << " Number is between 100-1000";

}

else if (num > 1000 && num <= 10000) {

cout << " Number is between 1000-10000";

}

else if (num > 10000) {

cout << " Number is > 10000";

}

else {

cout << " Number is <= 0";

}

return 0;

}

**FLOW CHART:**

Num (input)

1

True

num>0&& num<=100

3

1-100

2

False

num>100&& num<=1000

True

5

100-1000

4

False

7

True

num>1000&& num<=10000

1000-10000

6

False

num>10000

9

True

>10000

8

False

num<0

10

**MCDC:**

**DECISION COVERAGE CODE:**

* num= 0 → (num > 0 && num <= 100) (F)→ (num > 100 && num <= 1000) (F)→ (num > 1000 && num <= 10000)(F) → (num > 10000)(F)

**CONDITION COVERAGE CODE:**

* num=50 → (num > 0 && num <= 100) (T)→ (num > 100 && num <= 1000) (F)→ (num > 1000 && num <= 10000)(F) → (num > 10000)(F)
* num=150 → (num > 0 && num <= 100) (F)→ (num > 100 && num <= 1000) (T)→ (num > 1000 && num <= 10000)(F) → (num > 10000)(F)
* num=1500→ (num > 0 && num <= 100) (F)→ (num > 100 && num <= 1000) (F)→ (num > 1000 && num <= 10000)(T) → (num > 10000)(F)

* num=15000→ (num > 0 && num <= 100) (T)→ (num > 100 && num <= 1000) (F)→ (num > 1000 && num <= 10000)(F) → (num > 10000)(T)

**DECISION CONDITION COVERAGE CODE:**

**TEST ORACLE**

* Input num=50:

Expected output: Number is between 1-100

Path: 1 -> 2 -> 3

Test oracle: Number is between 1-100

* Input num=150:

Expected output: Number is between 100-1000

Path: 1 -> 2 -> 4 -> 5

Test oracle: Number is between 100-1000

* Input num=1500

Expected out: Number is between 1000-10000

Path: 1->2->4->6->7

Test oracle: Number is between 1000-10000

* Input num=15000:

Expected output: Number is > 10000

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 9

Test oracle: Number is > 10000

* Input num= 0:

Expected output: Number is <= 0

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 10

Test oracle: Number is <= 0

**PATH PREDICTION**

* If input, num= 50:

Path: 1 -> 2 -> 3

* If input, num= 150:

Path: 1 -> 2 -> 4 -> 5

* If input, num= 1500:

Path: 1 -> 2 -> 4 ->6 -> 7

* If input, num= 15000:

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 9

* If input, num= 0:

Path: 1 -> 2 -> 4 -> 6 -> 8 -> 10