DATE 06-01-2022

EXPERIMENT 12

AIM

Write a program to perform loops unrolling

PROGRAM

```
// definition & declarations

main() {
// Get a number and choice for whether unrolled or not
// Call the function based on the choice

}

// Without unrolling
Count bits1 ( unsigned int n ) {
    int bits = 0 , i = 0;
    while (n != 0) {
        if ( n & 1)
            bits ++
        n >> = 1;
        i++ ;
    }
    printf ("Number of iterations %d", i);
    return bits ;

}

Count_bit2 (unsigned int n ) {
  int bits = 0; i=0;
  while (n != 0) {
      if (n & 2) bits ++;
      if (n & 2) bits ++;
      if (n & 4) bits ++
      if (n & 8) bits ++;
      n >> = 4 ;
  }  i++
```

```
printf("Number of iterations %d", i);
return bits;
}
```

OUTPUT

```
Enter N
5
1. Loop Roll
2. Loop Un Roll
Enter your choice
2
Number of iterations 1
Loops un roll: count=2
```

```
Enter N
5
1. Loop Roll
2. Loop Un roll
Enter your choice
1
Number of iterations: 3
Loop Roll Count of 1: 2
```