Ankit Raj 1906534

Q1. write a program to implement GCD (greatest common divisor) using the algorithms.

a) Euclid's algorithm

```
#include
int gcd_algorithm(int p, int q){
  if (q == 0) {
  return p;
      }
else if (p >= q && q > 0) {
       return gcd_algorithm(q, (p % q));
          }
      }
int main(void){
int num1, num2, gcd;
 printf("\nEnter two numbers: ");
 scanf("%d%d", &num1, &num2);
 gcd = gcd_algorithm(num1, num2);
if (gcd)
 printf("\nThe GCD of %d and %d is %d\n", num1, num2, gcd);
else
printf("\nInvalid Input\n");
 return 0;
```

```
}
```

(b)Consecutive integer checking algorithm

```
#include
int gcd(int a,int b)
{
if (a == 0)
        return b;
if (b == 0)
    return a;
if(a==b)
    return a;
if (a > b)
 return gcd(b, (a%b));
 return gcd(a, (b%a));
}
int main() {
int a,b;
 printf("Enter two numbers: ");
 scanf("%d%d", &a, &b);
  printf("gcd is %d",gcd(a,b));
   return 0;
 }
```