```
……..program 01……..

#include <stdio.h>
#include <stdlib.h>

void mulTest();
int divide(int number1,int number2);
int countDigits(int n);
void position(int n, int m);
void extractOddDigits(long n);



void main()
{
   int number1,number2;
   int choice;
   int n;
long long m;
   do
   {
      printf("Perform the following functions:\n");
      printf ("1: multiplication test\n");
      printf ("2: quotient using division by subtraction\n");
      printf ("3: count the number of digits\n");
      printf ("4: position of a digit\n");
      printf ("5: extract all odd digits\n");
      printf ("6: quit\n\n");
      printf("Your Answer is: ");
      scanf("%d", &choice);
      switch (choice)
      {
      case 1:
         mulTest();
         break;
      case 2:


         printf("Enter The Value OF Number 1: ");
         scanf("%d",&number1);
         printf("Enter The Value OF Number 2: ");
         scanf("%d",&number2);
         printf("\nResult OF: %d\n",divide(number1,number2));

         break;
      case 3:

         printf("Enter The Value Of N: ");
         scanf("%d",&n);
         if(n>0){
            printf("Number is Negative :)");
         }else
         printf("Count : %d\n", countDigits(n));

         break;
```

```
      case 4:

         printf("Enter The Value OF Number 1: ");
         scanf("%d",&number1);
         printf("Enter The Value OF Number 2: ");
         scanf("%d",&number2);

         position(number1,number2);

         break;
      case 5:

         printf("Enter The value of n: ");
         scanf("%ld",&m);
         extractOddDigits(m);

         break;
      case 6:
         printf("Program terminating ….");
      }
   }
   while (choice < 6);



}

void mulTest()
{
   int n,correctAns=0;
   printf("How Many Number Do You Want? ");
   scanf("%d",&n);
   for(int i=0; i<n; i++)
   {
      int upper=9,lower=1,ans;
      srand(time(0));
      int number1=(rand()%(upper-lower+1))+lower;
      int number2=(rand()%(upper-lower+1))+lower;
      printf("How much is %d times %d? ",number1,number2);
      scanf("%d",&ans);
      if(ans==(number1*number2))
      {
         correctAns++;
      }
   }
   printf("\n\t%d answers out of %d are correct.\n\n",correctAns,n);
}


int divide(int number1,int number2)
{
   int count=0;
   if(number1>number2)
   {

      while(number1!=0)
      {
```

```
        count++;
        number1=number1-number2;

        if(number1<number2) number1=0;

      }
   }
   return count;

}
int countDigits(int n)
{
   int count=0,rem;
   while(n!=0)
   {
      count++;
      n=n/10;
   }
   return count;
}


void position(int n, int m)
{
   int status=0;
   int secondNumber=0,count=0;
   while(n!=0)
   {
      int digit=n%10;
      if(digit==m)
         status++;
      secondNumber=secondNumber*10+digit;
      n=n/10;
   }
   if(status==0)
   {
      printf("-1");
   }
   else
   {
      while(secondNumber!=0)
      {
         int rem=secondNumber%10;
         if(rem<m)
         {
            count++;
         }
         else if(rem==m)
         {
            count++;
            break;
         }
         secondNumber=secondNumber/10;
      }
      printf("\nPosition No: %d\n",count);
   }
}
```

```
void extractOddDigits(long n)
{
   long digitNumber=0,secondNumber=0;
   int count=0;
   while(n!=0)
   {
      int rem=n%10;
      if(rem%2!=0)
      {
         count++;
         digitNumber=digitNumber*10+rem;
      }
      n=n/10;
   }
   if(count!=0)
   {
      while(digitNumber!=0)
      {
         secondNumber=secondNumber*10+digitNumber%10;
         digitNumber=digitNumber/10;
      }
   }
   if(count==0)
      printf("\nResult is: -1\n");
   else
   {
      printf("\nResult is: %d\n",secondNumber);
   }
}
```

……..program 02……..

```
#include<stdio.h>
integerPower(int base,int power)
{
   int multiplixition=1;
   for(int i=0; i<power; i++) multiplixition*=base;
   printf("Multiplication Is: %d",multiplixition);
}

int main()
{
   int base, power;
   printf("Enter The Value Of Base: ");
   scanf("%d",&base);
   printf("Enter The Value Of Power: ");
   scanf("%d",&power);
   if(base>0 && power>0)
   {
      integerPower(base,power);
   }
   else
   {
```

```
    printf("Error! ");
  }

  return 0;
}
```

……..program 03……..

```
#include<stdio.h>
int revergeANumber(int number)
{
  int rNumber=0;
  while(number!=0)
  {
    rNumber=rNumber*10+number%10;
    number/=10;
  }
  return rNumber;
}

int main()
{
  int number;
  printf("Enter The Value Of N: ");
  scanf("%d",&number);
  printf("\nNumber Is: %d",number);
  printf("\n\nAfter Reverse Number is: %d\n\n",revergeANumber(number));
  return 0;
}
```

……..program 04……..

```
#include<stdio.h>
int fibo(int n)
{
  if(n<=1) return n;
  return fibo(n-1)+fibo(n-2);
}

int main ()
{
  int n;
  printf("Enter The Value Of N: ");
  scanf("%d",&n);
  if(n>0)
  {
    for(int i=0; i<n; i++) printf("%d ",fibo(i));
  }

  return 0;
}
```

……..program 05……..

```
#include<stdio.h>
int divide(int a,int b)
{
  if(a - b <= 0)
  {
    return 1;
```

```
    }
    else
    {
        return divide(a - b, b) + 1;
    }
}
int main()
{
    int m,n;
    printf("Enter The Value Of M: ");
    scanf("%d",&m);
    printf("Enter The Value Of N: ");
    scanf("%d",&n);
    printf("\nDivide is: %d\n", divide(m,n));


    return 0;
}
```

……..program 06……..

```
#include<stdio.h>
int swap(int *number1,int *number2)
{
    int temp;
    temp=*number1;
    *number1=*number2;
    *number2=temp;
}

int main()
{

    int number1,number2;
    printf("Enter The Value OF Number 1 :");
    scanf("%d",&number1);
    printf("Enter The Value OF Number 2 :");
    scanf("%d",&number2);
    printf("\nBefore Swapping \n Number 1: %d Number 2: %d",number1,number2);
    swap(&number1,&number2);
    printf("\n\nAfter Swapping \n Number 1: %d Number 2: %d\n\n",number1,number2);

    return 0;
}
```