Task 05:

```c
#include <stdio.h>


int main()
{


  int x, factorial = 1;

  printf("Enter a number to calculate the factorial: ");

  scanf("%d", &x);


  if (x < 0)

  {

    printf("Factorial of negative number is not defined");

  }

  else

  {

   for (int i = x; i >= 1; i--)

   {

     factorial *= i;

   }


   printf("\nThe Factorial of %d is: %d\n", x, factorial);

  }


  return 0;

}
```

OUTPUT:

```
Enter a number to calculate the factorial: 8

The Factorial of 8 is: 40320
PS C:\Coding\C\Uni_Work> cd "c:\Coding\C\Uni_Work\"
Enter a number to calculate the factorial: -2
Factorial of negative number is not defined
```

TASK 06:

```c
#include <stdio.h>

int main(){

 int x= 1,i=0;

 float sum = 0;

 int count7 = 0,count5_7=0,count0_5=0;


 while(x>= 0 && x<=100){

  printf("Enter the grade(Between 0 and 100) and -1 to stop: ");

  scanf("%d",&x);

  if(x == -1){

   break;

  }

  if(x < 0 || x > 100){

   printf("Invalid grade! Please enter between 0 and 100.\n\n");

   continue;

  }

  i++;

  printf("The grade of student %d is %d\n\n",i,x);

  if(x>70){

   count7++;

  }else if(x >= 50 && x <= 70){

   count5_7++;

  }else{

   count0_5++;

  }

sum +=x;

 }
```

```
if(i > 0){

  printf("\nNumber of grades above 70 : %d\n",count7);

  printf("Number of grades between 50 and 70 : %d\n",count5_7);

  printf("Number of grades below 50 : %d\n",count0_5);

  printf("The average grade of students is: %f",sum/i);

}else{

  printf("No grades are entered");

}


  return 0;

}
```

OUTPUT:

```
Enter the grade(Between 0 and 100) and -1 to stop: 44
The grade of student 1 is 44

Enter the grade(Between 0 and 100) and -1 to stop: 98
The grade of student 2 is 98

Enter the grade(Between 0 and 100) and -1 to stop: 57
The grade of student 3 is 57

Enter the grade(Between 0 and 100) and -1 to stop: 84
The grade of student 4 is 84

Enter the grade(Between 0 and 100) and -1 to stop: 21
The grade of student 5 is 21

Enter the grade(Between 0 and 100) and -1 to stop: -1

Number of grades above 70 : 2
Number of grades between 50 and 70 : 1
Number of grades below 50 : 2
The average grade of students is: 60.799999
PS C:\Coding\C\Uni_Work>
```

TASK 07:

```c
#include <stdio.h>

int main(){

  int balance = 5000;
  int transaction = 1;
  int d_count = 0,w_count = 0;

  while(transaction != 0){
    printf("\nEnter amount of transaction (positive for deposits, negative for withdrawals): ");
    scanf("%d",&transaction);

    if(transaction == 0){
      break;
    }
    if(transaction > 0){
      d_count++;
    }else if(transaction < 0){
      w_count++;
    }

    balance = balance + transaction;
    printf("Updated Balance: %d\n",balance);
  }

  printf("\nFinal Balance: %d\n",balance);
  printf("\nTotal Number of Deposits: %d\n",d_count);
  printf("\nTotal Number of Withdrawals: %d\n",w_count);

  return 0;
}
```

OUTPUT:

```
Enter amount of transaction (positive for deposits, negative for withdrawals): 34
Updated Balance: 5034

Enter amount of transaction (positive for deposits, negative for withdrawals): 568
Updated Balance: 5602

Enter amount of transaction (positive for deposits, negative for withdrawals): 5465
Updated Balance: 11067

Enter amount of transaction (positive for deposits, negative for withdrawals): -468
Updated Balance: 10599

Enter amount of transaction (positive for deposits, negative for withdrawals): -960
Updated Balance: 9639

Enter amount of transaction (positive for deposits, negative for withdrawals): 46489
Updated Balance: 56128

Enter amount of transaction (positive for deposits, negative for withdrawals): -30500
Updated Balance: 25628

Enter amount of transaction (positive for deposits, negative for withdrawals): 0

Final Balance: 25628

Total Number of Deposits: 4

Total Number of Withdrawals: 3
```
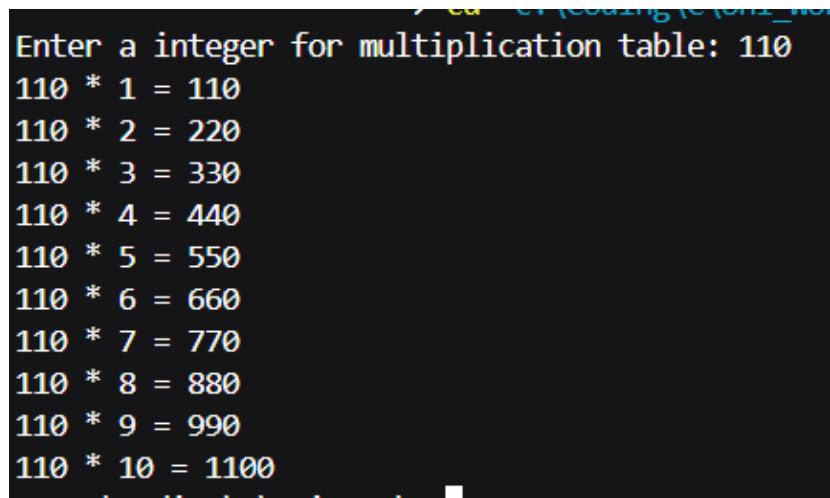
LAB 06

TASK 08:

```c
#include <stdio.h>

int main()
{
  int x;
  printf("Enter a integer for multiplication table: ");
  scanf("%d", &x);

  if (x < 0)
  {
    printf("Invalid Input,number should be positive");
  }
  else
  {
   for (int i = 1; i <= 10; i++)
   {
     printf("%d * %d = %d\n", x, i, x * i);
   }
  }
  return 0;
}
```

OUTPUT:

```
Enter a integer for multiplication table: 110
110 * 1 = 110
110 * 2 = 220
110 * 3 = 330
110 * 4 = 440
110 * 5 = 550
110 * 6 = 660
110 * 7 = 770
110 * 8 = 880
110 * 9 = 990
110 * 10 = 1100
```

TASK 09:

```c
#include <stdio.h>

int main()
{

  int x;
  int largest_no,smallest_no;
  char ch = 'y';
  int i =1;

  do{
    printf("\nEnter a number: ");
    scanf("%d", &x);

    if (i == 1){
      largest_no = x;
      smallest_no = x;
      i++;
    }

    if(x > largest_no){
      largest_no = x;
    }
    if(x < smallest_no){
      smallest_no = x;
    }
    printf("Largest Num: %d\n",largest_no);
    printf("Smallest Num: %d\n",smallest_no);

    printf("Do you want to continue? (y for yes/n for no): ") ;
    scanf(" %c",&ch);
  }while(ch == 'y' || ch == 'Y');

  printf("\nFinal Largest number entered: %d\n", largest_no);
  printf("Final Smallest number entered: %d\n", smallest_no);




  return 0;
}
```

OUTPUT:

```
Enter a number: 67
Largest Num: 67
Smallest Num: 67
Do you want to continue? (y for yes/n for no): y

Enter a number: 98784
Largest Num: 98784
Smallest Num: 67
Do you want to continue? (y for yes/n for no): y

Enter a number: -82
Largest Num: 98784
Smallest Num: -82
Do you want to continue? (y for yes/n for no): y

Enter a number: 1555
Largest Num: 98784
Smallest Num: -82
Do you want to continue? (y for yes/n for no): n

Final Largest number entered: 98784
Final Smallest number entered: -82
PS C:\Coding\C\Uni_Work>
```

TASK 10:

```c
#include <stdio.h>

int main()
{

  int x,sum = 0;
  char ch = 'y';

  while(ch == 'y' || ch == 'Y'){
    printf("\nEnter a number: ");
    scanf("%d", &x);

    sum += x;
    printf("Running sum of numbers: %d\n",sum);


    printf("Do you want to continue? (y for yes/n for no): ") ;
    scanf(" %c",&ch);
  }

  printf("\nFinal sum of all numbers entered: %d\n", sum);

  return 0;
}
```

OUTPUT:

```
Enter a number: 566
Running sum of numbers: 566
Do you want to continue? (y for yes/n for no): y

Enter a number: 77
Running sum of numbers: 643
Do you want to continue? (y for yes/n for no): y

Enter a number: 76
Running sum of numbers: 719
Do you want to continue? (y for yes/n for no): n

Final sum of all numbers entered: 719
PS C:\Coding\C\Uni_Work>
```