Final Assignment

1.Arithmetic operation:

```c
#include <stdio.h>

int main()
{
    float a, b, sum, sub, multi, div;

    printf("Enter 1st Number: ");
    scanf("%f",&a);

    printf("Enter 2nd Number: ");
    scanf("%f",&b);

    sum = a+b;
    sub = a-b;
    multi = a*b;
    div = a/b;

    printf("%f + %f = %f\n",a,b,sum);
    printf("%f - %f = %f\n",a,b,sub);
    printf("%f * %f = %f\n",a,b,multi);
    printf("%f / %f = %f\n",a,b,div);

    return 0;
}
```

2.Amount of money:

```c
#include <stdio.h>

int main()
{
    int amount, total;

    printf("Enter Total Amount of Money: ");
    scanf("%d",&amount);

    total = amount/500;
    printf("%d note(s) of 500\n",total);
```

```c
    amount = amount - (total*500);
    total = amount/100;
    printf("%d note(s) of 100\n",total);

    amount = amount - (total*100);
    total = amount/50;
    printf("%d note(s) of 50\n",total);

    amount = amount - (total*50);
    total = amount/10;
    printf("%d note(s) of 10\n",total);

    amount = amount - (total*10);
    total = amount/5;
    printf("%d note(s) of 5\n",total);

    amount = amount - (total*5);
    total = amount/1;
    printf("%d note(s) of 1\n",total);

    return 0;
}
```

3.Floor & Ceil:

```c
#include <stdio.h>
int main()
{
    float float_val, floor_val, ceil_val;

    printf("Enter A Float Value: ");
    scanf("%f",&float_val);

    floor_val=floor(float_val);
    ceil_val=ceil(float_val);

    printf("Floor = %f Ceiling = %f",floor_val,ceil_val);

    return 0;
}
```

4.sin & cos equation:

```c
#include <stdio.h>
#include <math.h>
int main()
{
    float x, result=0;
    printf("Enter x value: ");
    scanf("%f",&x);

    x = x*(3.1416/180);
    result = (2*(pow(cos(x),2))-(1.7*sin(x))+(sin(x/2)));

    printf(" %f",result);

    return 0;
}
```

5.Leap year:

```c
#include <stdio.h>
int main()
{
    int year;
    printf("Enter A Year: ");
    scanf("%d",&year);

    if((year%4==0 && year%100!=0) || (year%400==0)){
        printf("Yes",year);
    }
    else{
        printf("No",year);
    }

    return 0;
}
```

6.Character variation:

```c
#include <stdio.h>
int main()
{
    char ch;
    printf("Enter A Character: ");
    scanf("%c",&ch);

    if((ch>='a' && ch<='z')||(ch>='A' && ch<='Z')){
      printf("Alphabet",ch);
      }
      else if(ch>='0' && ch<='9'){
         printf("Digit",ch);
      }
      else{
         printf("Special",ch);
      }

    return 0;
}
```

7.Number guessing:

```c
#include <stdio.h>
int main()
{
    int x, n1, n2, n3;
    printf("Player 1 Pick A Number: ");
    scanf("%d",&x);
    printf("Player 2 Guess The Number Within N=3 Tries!");

    scanf("%d",&n1);
    if(n1==x){
       printf("Right, Player-2 wins!");
    }
    else{
       printf("Wrong, 2 Chance(s) Left!\n");
       scanf("%d",&n2);
       if(n2==x){
          printf("Right, Player-2 wins!\n");
       }
       else{
```

```c
            printf("Wrong, 1 Chance(s) Left!\n");
            scanf("%d",&n3);
        if(n3==x){
            printf("Right, Player-2 wins!\n");
        }
        else{
            printf("Wrong, 0 Chance(s) Left!\n");
            printf("Player-1 wins!");
        }
        }
    }


    return 0;
}
```

8.Series code:

```c
#include <stdio.h>
int main()
{
    int i, n;

    printf("Enter your number: ");
    scanf("%d",&n);

    for(i=1; i<=n; i++){
        if(i%2==0){
            printf("0 ");}
        if(i%2==1){
            printf("1 ");
        }
    }
    printf("\n");

    return 0;
}
```

9.Reverse code:

```c
#include <stdio.h>
int main()
{
    int i, num, reverse;

    printf("Enter Your Number: ");
    scanf("%d",&i);

    for(; i!=0; i=i/10){
        num = i%10;
        reverse = reverse*10+num;
    }
    printf("%d",reverse);

    return 0;
}
```

10.Series code:

```c
#include <stdio.h>

int main()
{
    int i, n, result=0;

    printf("Enter The Value of N: ");
    scanf("%d",&n);

    for(i=1; i<=n; i++){
    result = result+(i*i*(i+1));
    }
    printf("Result: %d",result);

    return 0;
}
```

11.Factorial code:

```c
#include <stdio.h>
int main()
{
    int i, n, fact=1;
    printf("Enter Number: ");
    scanf("%d",&n);

    for(i=1; i<=n; i++){
        fact = fact*i;
    }
    printf("%d! =%d",n,fact);

    return 0;
}
```

12.Palindrome code:

```c
#include <stdio.h>
int main()
{
    int i, n, r, sum=0;
    printf("Enter An Integer Number: ");
    scanf("%d",&n);

    for(i=n; n!=0; n=n/10){
        r = n%10;
        sum = sum*10+r;
    }
    if(i==sum){
        printf("Yes",i);
    }
    else{
        printf("No",i);
    }

    return 0;
}
```

Submitted by: Md. Ammar Hossain