

Assignment 6

Ass1

// Finding F from C (temp).

```
#include<stdio.h>
```

```
float temp(float* celcius){
    float farahnite;
    farahnite = (*celcius*9/5)+32;
    printf("Given temp in farhanite is %f",farahnite);
}

int main(){
    float celcius;
    printf("Enter a temp :");
    scanf("%f", &celcius);
    temp(&celcius);
}
```

// Finding area and perimeter of rectangle or circle.

```
#include<stdio.h>
```

```
void Circle(int* radius){

    int perimeter,area;

    area = 3.14**radius*(*radius);
    printf("area of circle is : %d \n",area);

    perimeter = 3.14*2*(*radius);
    printf("perimeter of circle is : %d",perimeter);
}
```

```
}
```

```
int main(){  
    int radius ;  
  
    printf("Enter a radius :");  
    scanf("%d", &radius);  
  
    Circle(&radius);  
}
```

// Accept a 3 digit number from user and find the sum of the digits and also reverse the number

```
#include <stdio.h>
```

```
void Digit(int* num) {  
    int sum = 0, rev = 0, temp;  
  
    if (*num >= 100 && *num <= 999) {  
        temp = *num;  
        while (temp > 0) {  
            sum += temp % 10;  
            rev = rev * 10 + temp % 10;  
            temp /= 10;  
        }  
  
        printf("Sum of digits: %d\n", sum);  
        printf("Reverse of the number: %d\n", rev);  
    } else {  
        printf("Enter a valid 3-digit number.\n");  
    }  
}
```

```
int main(){
    int num;

    printf("Enter a 3-digit number: ");
    scanf("%d", &num);

    Digit(&num);
}
```

// Check if the given number is even or odd.

```
#include<stdio.h>
```

```
void EVENODD(int* num){

    if (*num%2==0)
        printf("Even");
    else
        printf("Odd");
}
```

```
void main(){
    int num;

    printf("Enter a number :");
    scanf("%d", &num);
    EVENODD(&num);
}
```

*// Calculating total salary based on basic. If basic <=5000 da, ta and hra will be
// 10%,20% and 25% respectively otherwise da, ta and hra will be 15%,25% and
// 30% respectively.*

```
#include<stdio.h>
```

```
int Salary(int* salary){  
    int DA,TA,HRA,total=0;  
  
    if (*salary <= 5000)  
    {  
        DA = *salary*0.1;  
        TA = *salary*0.2;  
        HRA = *salary*0.25;  
  
        // total = *salary+DA+TA+HRA;  
        // printf("Total Salary : %d",total);  
    }else{  
        DA = *salary*0.15;  
        TA = *salary*0.25;  
        HRA = *salary*0.30;  
  
        // total = *salary+DA+TA+HRA;  
        // printf("Total Salary : %d",total);  
    }  
    total = *salary+DA+TA+HRA;  
    printf("Total Salary : %d",total);  
  
}
```

```
int main(){  
    int salary;  
  
    printf("Enter a basics salary :");  
    scanf("%d", &salary);  
    Salary(&salary);  
}
```

```
// Write a program to check if person is eligible to marry or not (male age >=21  
// and female age>=18).
```

```
#include<stdio.h>
```

```
void Marry(int *fage,int *mage){
```

```
    if(*mage >=21 && *fage >=18)
```

```
        printf("Both eligible");
```

```
    else if(*mage <=21 && *fage<=18)
```

```
        printf("Both r not eligible");
```

```
    else if (*mage<=21 || *fage>=18)
```

```
        printf("male not eligible , female eligble");
```

```
    else if(*mage >=21 || *fage<=18)
```

```
        printf("female not eligible , male eligble");
```

```
}
```

```
void main(){
```

```
    int fage, mage;
```

```
    printf("Enter female age :");
```

```
    scanf("%d", &fage);
```

```
    printf("Enter male age :");
```

```
    scanf("%d", &mage);
```

```
    Marry(&fage, &mage);
```

```
}
```

Ass2

// 1. Find the price of item when discount is given (specify different discount based on price)

```
#include <stdio.h>
```

```
void Discount(int* price) {
```

```
    float dis = 0;
```

```
    float finalprice;
```

```
    if (*price < 500) {
```

```
        dis = *price * 0.1;
```

```
    } else if (*price < 1000) {
```

```
        dis = *price * 0.2;
```

```
    } else if (*price < 2000) {
```

```
        dis = *price * 0.3;
```

```
    } else {
```

```
        dis = *price * 0.4;
```

```
    }
```

```
    finalprice = *price - dis;
```

```
    printf("\nOriginal Price: %d\n", price);
```

```
    printf("Discount Applied: %.2f\n", dis);
```

```
    printf("Final Price: %.2f\n", finalprice);
```

```
}
```

```
int main() {
```

```
    int price;
```

```
    printf("Enter the price of the item: ");
```

```
    scanf("%d", &price);
```

```
    Discount(&price);
```

```
    return 0;
```

```
}
```

// Write a program to find greatest of three numbers using nested if-else.

```
#include<stdio.h>
```

```
void Comparison(int* a, int* b, int* c){
```

```
    if(*a>*b){
        if(*a>*c){
            printf("a is greater than b and c ");
        }else{
            printf(" C is greater greater than b ");
        }
    }else {if(*b>*c){
        printf("b is greater c and a ");
    }else{
        printf("c is greater than a and c");
    }
}
```

```
void main(){
```

```
    int a , b , c ;
```

```
    printf("Enter a 3 numbers as a b c respectively: ");
```

```
    scanf("%d %d %d", &a , &b , &c);
```

```
    Comparison(&a,&b,&c);
```

```
}
```

// Accept two numbers from user and an operator (+,-,/,,%) based on that*

// perform the desired operations.

```
#include <stdio.h>
```

```
int Operation(int* a, int* b, char* op) {
```

```
    int res = 0;
```

```
    if (*op == '*') {
```

```
        res = *a * *b;
```

```
    } else if (*op == '/') {
```

```
        if (*b == 0) {
```

```
            printf("Error\n");
```

```
            return 1;
```

```
        }
```

```
        res = *a / *b;
```

```
    } else if (*op == '+') {
```

```
        res = *a + *b;
```

```
    } else if (*op == '-') {
```

```
        res = *a - *b;
```

```
    } else if (*op == '%') {
```

```
        if (*b == 0) {
```

```
            printf("Error\n");
```

```
            return 1;
```

```
        }
```

```
        res = *a % *b;
```

```
    } else {
```

```
        printf("Error\n");
```

```
        return 1;
```

```
    }
```

```
    printf("Result: %d\n", res);
```

```
    return 0;
```

```
}
```

```
int main() {
```

```
    int a, b;
```

```
    char op;
```



```

printf("Enter two numbers: ");
scanf("%d %d", &a, &b);

printf("Enter an operator (+, -, *, /, %%): ");
scanf(" %c", &op);

Operation(&a, &b, &op);
return 0;
}

// Display a menu to the user (like 1.Even Odd 2. Basic salary etc), ask the user to
// enter his choice, then based on that perform the desired operations.

#include<stdio.h>

int Salary(int* choice){

    if(*choice == 1){
        printf("Even / Odd");
    }else if (*choice == 2){
        printf("Basic Salary ");
    }else{
        printf("Error");
    }
}

int main(){
    int choice;

    printf("Menu:\n1.Even/Odd\n2.Basic Salary\n");
    printf("Enter your choice:");
    scanf("%d", &choice);
    Salary(&choice);
}

```

```
}  
  
// Accept the price from user. Ask the user if he is a student (user may say yes or  
// no). If he is a student and he has purchased more than 500 then discount is 20%  
// otherwise discount is 10%. But if he is not a student then if he has purchased  
// more than 600 discount is 15% otherwise there is not discount.
```

```
#include <stdio.h>
```

```
int offer(int* price ,char* Student) {  
    int discount;  
  
    if (*Student == 'y' || *Student == 'Y') {  
        if (*price > 500) {  
            discount = *price * 0.2;  
        } else {  
            discount = *price * 0.1;  
        }  
    } else if (*Student == 'n' || *Student == 'N') {  
        if (*price > 600) {  
            discount = *price * 0.15;  
        }  
    } else {  
        printf("Invalid");  
    }  
}
```

```
int finalPrice = *price - discount;  
printf("Final price : %d\n", finalPrice);
```

```
}
```

```
int main(){  
    int price;  
    char Student;
```

```
printf("Enter the price: ");  
scanf("%d", &price);  
  
printf("Are you a student? (y/n): ");  
scanf(" %c", &Student);  
offer(&price , &Student);  
}
```

Ass3

// Print numbes from 1 to 10.

```
#include<stdio.h>
```

```
int Num(int* range){
```

```
    // int a=1;
```

```
    // while (a<=10)
```

```
    // {
```

```
    //  printf("%d\n", a);
```

```
    //  a++;
```

```
    // }
```

```
for(int i=1;i<=*range;i++){
```

```
    printf("%d ", i);
```

```
}
```

```
}
```

```
int main(){
```

```
    int range;
```

```
    printf("Enter a range u want to print from 1 to onmword :");
```

```
    scanf("%d",&range);
```

```
    Num(&range);
```

```
}
```

// Print table for the given number.

```
#include<stdio.h>
```

```
int Table(int* a) {
```

```
    // int i=1;
```

```
for(int i=1;i<=10;i++){  
    int res = *a*i;  
    printf("%d\n",res);  
}
```

```
// while (i <= 10) {  
//     printf("%d\n", a * i);  
//     i++;  
// }
```

```
}
```

```
int main(){
```

```
    int a;
```

```
    printf("Enter a number: ");
```

```
    scanf("%d", &a);
```

```
    Table(&a);
```

```
}
```

```
// Calculate sum of numbers in the given range.
```

```
#include<stdio.h>
```

```
int Sum(int* start , int* end){
```

```
    int sum=0;
```

```
    if(*start>*end){
```

```
        return 1;
```

```
    }
```

```
// while (start <= end)
```

```
// {
```

```
//     sum+=start;
```

```

    //    start++;
    //}

    for(int i=*start;i<=*end;i++){
        sum +=i;
    }
    printf("Total sum is : %d", sum);

}

int main(){
    int start , end ;

    printf("Enter the staring number :");
    scanf("%d" , &start);

    printf("Enter the ending number :");
    scanf("%d" , &end);

    Sum(&start,&end);
}
// Check number is prime or not.
#include<stdio.h>

int Prime(int* num) {
    int isprime = 1;

    if (*num <= 1) {
        printf("Not prime");
    }

    for(int i=2;i<=*num/2;i++){

```

```
    if (*num % i == 0) {  
        isprime = 0;  
        break;  
    }  
}
```

```
// while (i <= num / 2) {  
//     if (num % i == 0) {  
//         isprime = 0;  
//         break;  
//     }  
//     i++;  
// }
```

```
isprime?printf("Prime");printf("Not prime");  
// if (isprime) {  
//     printf("Prime");  
// } else {  
//     printf("Not prime");  
// }
```

```
}
```

```
int main(){  
    int num;  
  
    printf("Enter the number to check prime or not: ");  
    scanf("%d", &num);  
  
    Prime(&num);  
}  
  
// Check number is armstrong or not?
```

```
#include<stdio.h>
```

```
int Armstrong( int *num) {
```

```
    int  originalNum, sum = 0, digit, count = 0, temp;
```

```
    originalNum = *num;
```

```
    temp = *num;
```

```
    //for digit count
```

```
    while(temp >0){
```

```
        temp /=10;
```

```
        count++;
```

```
    }
```

```
    temp=*num;
```

```
    while (temp > 0) {
```

```
        digit = temp % 10;
```

```
        int power = 1;
```

```
        for (int i = 0; i < count; i++) {
```

```
            power *= digit;
```

```
        }
```

```
        sum += power;
```

```
        temp /= 10;
```

```
    }
```

```
    if (sum == originalNum)
```

```
        printf("%d is Armstrong number.\n", *num);
```

```
    else
```

```
        printf("%d is not Armstrong number.\n", *num);
```

```
}
```

```
int main(){
```



```

int num;

printf("Enter a number :");
scanf("%d", &num);

Armstrong(&num);
}
// Check number is perfect or not.

#include <stdio.h>

void Perfect(int* num) {
    int fact = 0;

    for (int i = 1; i < *num; i++) {
        if (*num % i == 0) {
            fact += i;
        }
    }

    if (*num == fact)
        printf("%d is a perfect number\n", *num);
    else
        printf("%d is not a perfect number\n", *num);
}

int main() {
    int num;
    printf("Enter a number: ");
    scanf("%d", &num);
    Perfect(&num);
    return 0;
}

```

// Find factorial of number.

```
#include<stdio.h>
```

```
int Fact(int* num){
    int fact=1;

    for(int i=1; i<=*num;i++){
        fact*=i;
    }
    printf("Factorial of %d is : %d",*num,fact);
}
```

```
int main(){
    int num;

    printf("Enter a number :");
    scanf("%d",&num);

    Fact(&num);
}
```

// Check number is strong or not.

```
#include <stdio.h>
```

```
int Strong(int* num) {
    int originalNum, digit, sum = 0;

    originalNum=*num;

    while (*num > 0) {
        digit = *num % 10;
        int fact = 1;
```

```

        for (int i = 1; i <= digit; i++) {
            fact *= i;
        }

        sum += fact;
        *num /= 10;
    }

    if (sum == originalNum)
        printf("%d is a Strong Number.\n", originalNum);
    else
        printf("%d is not a Strong Number.\n", originalNum);
}

int main() {
    int num;

    printf("Enter a number: ");
    scanf("%d", &num);

    Strong(&num);
}

```

// Check the given number is palindrome or not?

```
#include <stdio.h>
```

```

int palindrome(int* num) {
    int originalNum, reversedNum = 0, digit;

    originalNum = *num;

```

```

while (*num>0) {
    digit = *num % 10;
    reversedNum = reversedNum * 10 + digit;
    *num /= 10;
}

if (originalNum == reversedNum)
    printf("%d is a Palindrome.\n", originalNum);
else
    printf("%d is Not a Palindrome.\n", originalNum);

}

int main(){
    int num;

    printf("Enter a number: ");
    scanf("%d", &num);

    palindrome(&num);
}

```

// Add the (first and last) digit of a given number?

```
#include <stdio.h>
```

```

int Summ(int* num) {
    int firstDigit, lastDigit;

    lastDigit = *num % 10;
    firstDigit = *num;

    while (firstDigit >= 10) {
        firstDigit /= 10;
    }
}

```

```
    }  
    int res= firstDigit+ lastDigit;  
    printf("Sum of first and last digits is : %d ", res);  
  
}  
int main(){  
    int num;  
  
    printf("Enter a number: ");  
    scanf("%d", &num);  
  
    Summ(&num);  
  
}
```

ASS4

// Print armstrong number in the the given range 1 to n?

```
#include <stdio.h>
```

```
int Arm(int* range) {
```

```
    int start = 1, num, temp, count, result, digit;
```

```
    for (num = start; num <= *range; num++) {
```

```
        temp = num;
```

```
        count = 0;
```

```
        result = 0;
```

```
        while (temp > 0) {
```

```
            count++;
```

```
            temp /= 10;
```

```
        }
```

```
        temp = num;
```

```
        while (temp > 0) {
```

```
            digit = temp % 10;
```

```
            int power = 1;
```

```
            for (int j = 1; j <= count; j++)
```

```
                power *= digit;
```

```
            // int x = count;
```

```
            // while (x > 0)
```

```
            // {
```

```

        //  power *= digit;

        //  x--;

        //}

    result += power;
    temp /= 10;
}

if (num == result) {
    printf("%d ", num);
}
}

int main(){
    int range;

    printf("Enter range for the armstrong number: ");
    scanf("%d", &range);

    Arm(&range);
}

// Print prime number in the given range 1 to n?

#include<stdio.h>

int prime(int* range){
    int isprime;

    for(int num =2;num<=*range;num++){
        isprime=1;
        for(int i=2;i<num;i++){
            if(num%i==0){
                isprime=0;

```

```

        break;
    }
}
if(isprime)
    printf(" %d ", num);

}
}

int main(){
    int range;

    printf("Enter range for the prime number: ");
    scanf("%d", &range);

    prime(&range);
}

// check perfect number in the given range 1 to n?

#include<stdio.h>

int perfect(int* range){
    int fact=0;

    for(int num = 1;num<=*range;num++){
        fact=0;
        for(int i=1;i<=num/2;i++){
            if(num%i==0){
                fact +=i;
            }
        }
        if(fact == num)
            printf("%d ",num);
    }
}

```



```
}
```

```
int main(){
```

```
    int range ;
```

```
    printf("Enter range for the perfect number: ");
```

```
    scanf("%d", &range);
```

```
    perfect(&range);
```

```
}
```

```
// check strong number in the given range l to n?
```

```
#include<stdio.h>
```

```
int Strong(int* range){
```

```
    int fact, num, temp, digit, sum;
```

```
    for(num = 1; num <= *range; num++){
```

```
        sum = 0;
```

```
        temp = num;
```

```
        while(temp > 0){
```

```
            digit = temp % 10;
```

```
            fact = 1;
```

```
            for(int i = 1; i <= digit; i++){
```

```
                fact *= i;
```

```
            }
```

```
            sum += fact;
```

```
            temp /= 10;
```

```
        }
```

```
        if(sum == num)
```

```
            printf("%d ", num);
```

```
    }
```

```
}
```

```
int main(){
```

```
    int range;
```

```
    printf("Enter range for the strong number: ");
```

```
    scanf("%d", &range);
```

```
    Strong(&range);
```

```
}
```

```
// Print fibonacci series?(optional)
```

```
#include<stdio.h>
```

```
int Fibbo(int* n){
```

```
    int num , prev=0,next=1,temp;
```

```
    for(num=0;num<=*n;num++){
```

```
        printf("%d ", prev);
```

```
        temp = prev + next;
```

```
        prev = next;
```

```
        next = temp;
```

```
    }
```

```
}
```

```
int main(){
```

```
    int n;
```

```
    printf("Enter n for the fibo series: ");
```

```
    scanf("%d", &n);
```

```
    Fibbo(&n);
```

```
}
```