Assignment6(pointer)

Assignmet1

//total salary

void salary(float\*);

#include<stdio.h>

void main(){

float basic=3000;

salary(&basic);

}

//function defination

void salary(float\* basic){

float total;

float da,ta,hra,a;

if(\*basic<=5000){

//printf("a is %f",a=10/100);// 10/100 it is internally is a int so int /int gives int therfore it gives o

//da=basic\*(10/100); eihter make any one float or convert into 0.1

da=(\*basic)\*0.1;

printf("\nda is %f",da);

ta=(\*basic)\*0.2;

printf("\nta is %f",ta);

hra=(\*basic)\*0.25;

printf("\nhra is %f",hra);

}

else{

da=(\*basic)\*(15/100);

ta=(\*basic)\*(20/100);

hra=(\*basic)\*(25/100);

}

total=(\*basic)+da+ta+hra;

printf("\nThe total salary is %f",total);

}

Q2

//total salary

void salary(float\*);

#include<stdio.h>

void main(){

float basic=3000;

salary(&basic);

}

//function defination

void salary(float\* basic){

float total;

float da,ta,hra,a;

if(\*basic<=5000){

//printf("a is %f",a=10/100);// 10/100 it is internally is a int so int /int gives int therfore it gives o

//da=basic\*(10/100); eihter make any one float or convert into 0.1

da=(\*basic)\*0.1;

printf("\nda is %f",da);

ta=(\*basic)\*0.2;

printf("\nta is %f",ta);

hra=(\*basic)\*0.25;

printf("\nhra is %f",hra);

}

else{

da=(\*basic)\*(15/100);

ta=(\*basic)\*(20/100);

hra=(\*basic)\*(25/100);

}

total=(\*basic)+da+ta+hra;

printf("\nThe total salary is %f",total);

}

Q3//check even and odd

#include<stdio.h>

void even\_odd(int);//declaration

void main(){

int num;

printf("Enter the num:");

scanf("%d",&num);

even\_odd(num);//call

}

//func defination

void even\_odd(int num){

if(num%2==0){

printf("Even number");

}

else

{

printf("odd number");

}

}

Q4

#include<stdio.h>

void f(float\*);

void main(){

float C=12.3;

f(&C);

}

void f(float\* c){

float F;

F=((\*c)\*9/5)+32;

printf(" c is %f and its F is %f",\*c,F);

}

Q5

//accept 3 digit num ,sum the digits and reverse

#include<stdio.h>

void sum\_D(int\*);

void rev\_D(int\*);

void main(){

int num=12;

int num1=num;

sum\_D(&num);

//now here in the memory num is 0 so store it other variable

rev\_D(&num1);

}

//functions definations

void sum\_D(int\* num){

int sum=0,rem;

while((\*num)>0){

rem=(\*num)%10;

(\*num)=(\*num)/10;

sum=sum+rem;

}

printf("\nThe sum of the digit is %d ",sum);

}

void rev\_D(int\* num){

int rev=0,rem;

//printf("num %d",\*num);

while((\*num)>0){

rem=(\*num)%10;

(\*num)=(\*num)/10;

rev=(rev\*10)+rem;

//printf("%d",rev);

}

printf("\nThe reverse of the number is %d",rev);

}

Q6

//total salary

void salary(float\*);

#include<stdio.h>

void main(){

float basic=3000;

salary(&basic);

}

//function defination

void salary(float\* basic){

float total;

float da,ta,hra,a;

if(\*basic<=5000){

//printf("a is %f",a=10/100);// 10/100 it is internally is a int so int /int gives int therfore it gives o

//da=basic\*(10/100); eihter make any one float or convert into 0.1

da=(\*basic)\*0.1;

printf("\nda is %f",da);

ta=(\*basic)\*0.2;

printf("\nta is %f",ta);

hra=(\*basic)\*0.25;

printf("\nhra is %f",hra);

}

else{

da=(\*basic)\*(15/100);

ta=(\*basic)\*(20/100);

hra=(\*basic)\*(25/100);

}

total=(\*basic)+da+ta+hra;

printf("\nThe total salary is %f",total);

}

//////////////////////////////////////////////////////////////////////////////////////////

Assignment 2

Q1

//using scanf()

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

#include<stdio.h>

void discount(float\*);

void main(){

float price;

printf("Enter the price : ");

scanf("%f",&price);

discount(&price);

}

void discount(float\* price){

float dis;

//take the price from user

float price\_Ini=(\*price);

if((\*price)>=5000 && (\*price)<=7000){

dis=(\*price)\*0.2;

(\*price)=(\*price)-dis;

}

else{

if((\*price)>=3000&&(\*price)<5000){

dis=(\*price)\*0.15;

(\*price)=(\*price)-dis;

}

else{

if((\*price)<3000){

dis=(\*price)\*0.05;

(\*price)=(\*price)-dis;

}

else{

printf("invalid inputs");

}

}

}

printf("the original price is RS %f and after getting dis is RS %f ",price\_Ini,(\*price));

}

Q2

//using scanf()

//greatest no. among 3

#include<stdio.h>

void gret(int\*,int\*,int\*);

void main(){

int num1,num2,num3;

printf("Enter num1:");

scanf("%d",&num1);

printf("\nEnter num2:");

scanf("%d",&num2);

printf("\nEnter num3 :");

scanf("%d",&num3);

gret(&num1,&num2,&num3);//call

}

void gret(int\* num1,int\* num2,int\* num3){

if((\*num1)>(\*num2)){

if((\*num1)>(\*num3)){

printf("\nnum1 is greatest %d",(\*num1));

}

else{

printf("\nnum3 is greatest %d",(\*num3));

}

}

else{

if((\*num2)>(\*num3)){

printf("\nnum2 is greatest %d",(\*num2));

}

else{

printf("\nnum3 is greatest %d",(\*num3));

}

}

}

////////////////////////////////////////////////////////////////////////////////\*\*\*\*\*\*\*\*\*\*\*\*\*

Q3.1

//using scanf()//Accept two numbers from user and an operator (+,-,/,\*,%) based on that perform the desiredoperations.(without using scanf)

#include<stdio.h>

void add(int\*,int\*);

void sub(int\*,int\*);

void div(int\*,int\*);

void mul(int\*,int\*);

void mod(int\*,int\*);

void choice(char\*);

void main(){

char sign;

//when we use scanf with %c have to clear the buffer (\n \t enter tab space etc)

fflush(stdin);//to clean the buffer

printf("Enter the sign:");

scanf("%c",&sign);

choice(&sign);

}

//func definations

void choice(char\* sign){

if((\*sign)=='+'){

int num1,num2;

printf("Enter num1 :");

scanf("%d",&num1);

printf("Enter num2 :");

scanf("%d",&num2);

add(&num1,&num2);

}

else{

if((\*sign)=='-'){

int num1,num2;

printf("Enter num1 :");

scanf("%d",&num1);

printf("Enter num2 :");

scanf("%d",&num2);

sub(&num1,&num2);

}

else{

if ((\*sign)=='/'){

int num1,num2;

printf("Enter num1 :");

scanf("%d",&num1);

printf("Enter num2 :");

scanf("%d",&num2);

div(&num1,&num2);

}

else{

if((\*sign)=='\*'){

int num1,num2;

printf("Enter num1 :");

scanf("%d",&num1);

printf("Enter num2 :");

scanf("%d",&num2);

mul(&num1,&num2);

}

else{

if((\*sign)=='%'){

int num1,num2;

printf("Enter num1 :");

scanf("%d",&num1);

printf("Enter num2 :");

scanf("%d",&num2);

mod(&num1,&num2);

}

else{

printf("Invalid Inputs");

}

}

}

}

}

}

void add(int\* num1,int\* num2){

int res=(\*num1)+(\*num2);

printf("Addition is %d",res);

}

void sub(int\* num1,int\* num2){

int res=(\*num1)-(\*num2);

printf("substraction is %d",res);

}

void div(int\* num1,int\* num2){

int res=(\*num1)/(\*num2);

printf("division is %d",res);

}

void mul(int\* num1,int\* num2){

int res=(\*num1)\*(\*num2);

printf("multiplication is %d",res);

}

void mod(int\* num1,int\* num2){

int res=(\*num1)%(\*num2);

printf("modulation is %d",res);

}

//using scanf

//Accept two numbers from user and an operator (+,-,/,\*,%) based on that perform the desiredoperations.(without scanf)

#include<stdio.h>

void opt(int\*);

void add(int\*,int\*);

void sub(int\*,int\*);

void mul(int\*,int\*);

void div(int\*,int\*);

void mod(int\*,int\*);

void main(){

printf("\n 1.add \n 2. sub \n 3.div \n 4.mul \n 5.mod \n\n");

int choice;

printf("Enter choice:");

scanf("%d",&choice);

opt(&choice);

}

//function defination

void opt(int\* choice){

if((\*choice)==1){

int num1,num2;

printf("Enter num1:");

scanf("%d",&num1);

printf("Enter num2:");

scanf("%d",&num2);

add(&num1,&num2);

}else{

if((\*choice)==2){

int num1,num2;

printf("Enter num1:");

scanf("%d",&num1);

printf("Enter num2:");

scanf("%d",&num2);

sub(&num1,&num2);

}

else{

if((\*choice)==3){

int num1,num2;

printf("Enter num1:");

scanf("%d",&num1);

printf("Enter num2:");

scanf("%d",&num2);

mul(&num1,&num2);

}

else{

if((\*choice)==4){

int num1,num2;

printf("Enter num1:");

scanf("%d",&num1);

printf("Enter num2:");

scanf("%d",&num2);

div(&num1,&num2);

}else{

if((\*choice)==5){

int num1,num2;

printf("Enter num1:");

scanf("%d",&num1);

printf("Enter num2:");

scanf("%d",&num2);

mod(&num1,&num2);

}

else{

printf("\nInvalid Inputs");

}

}

}

}

}

}

void add(int\* num1,int\* num2){

int res=(\*num1)+(\*num2);

printf("Addition is %d",res);

}

void sub(int\* num1,int\* num2){

int res=(\*num1)-(\*num2);

printf("substraction is %d",res);

}

void mul(int\* num1,int\* num2){

int res=(\*num1)\*(\*num2);

printf("multiplication is %d",res);

}

void div(int\* num1,int\* num2){

int res=(\*num1)/(\*num2);

printf("Division is %d",res);

}

void mod(int\* num1,int\* num2){

int res=(\*num1)%(\*num2);

printf(" mod is %d",res);

}

//using scanf

//4. 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>

void even\_Odd(int\*);

void salary(float\*);

void menu(int\*);

void main(){

int choice=2;

printf("1.even odd \n 2.basic\_salary");

printf("\nEnter the choice:");

scanf("%d",&choice);

menu(&choice);

}

//function definations

void menu(int\* choice){

if((\*choice)==1){

int num;

printf("\nEnter the number to check even odd :");

scanf("%d",&num);

even\_Odd(&num);

}else{

if((\*choice)==2){

float basic\_s;

printf("\nEnter the basic salary:");

scanf("%f",&basic\_s);

salary(&basic\_s);

}else{

printf("choice is invalid");

}

}

}

void even\_Odd(int\* num){

if((\*num)%2==0)

{

printf("\neven number");

}

else{

printf("\nodd number");

}

}

void salary(float\* basic\_s){

float da,ta,hra,total;

if((\*basic\_s)<=5000){

da=(\*basic\_s)\*0.1;

ta=(\*basic\_s)\*0.2;

hra=(\*basic\_s)\*0.25;

}

else{

da=(\*basic\_s)\*0.15;

ta=(\*basic\_s)\*0.20;

hra=(\*basic\_s)\*0.25;

}

total=(\*basic\_s)+da+ta+hra;

printf("\nThe basic salary is %f and the total is %f",(\*basic\_s),total);

}

//using scanf()

/\*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 than 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>

void billing(int\*);

void main(){

printf("\n 1.student \n 2. not a student");

int user;

printf("\nEnter the user num:");

scanf("%d",&user);

billing(&user);

}

//defination

void billing(int\* user){

float bill,dis;

printf("\nEnter the bill:");

scanf("%f",&bill);

float bill\_ini=bill;

if((\*user)==1){

if(bill>500){

dis=bill\*0.2;

bill=bill-dis;

}

else{

dis=bill\*0.1;

bill=bill-dis;

}

}else{

if((\*user)==2){

if(bill>600){

dis=bill\*0.15;

bill=bill-dis;

}

else{

printf("no discount\n");

}

}

else{

printf("invalid inputs\n");

}

}

printf("bill is %f",bill);

}

Assignment 3

Q1

//print no from 1 to 10

#include<stdio.h>

void print\_no(int\*,int\*);//declaration

void main(){

int num,end;

printf("Enter the num:");

scanf("%d",&num);

printf("Enter the end:");

scanf("%d",&end);

print\_no(&num,&end);//calling

}

//defination

void print\_no(int\* num,int\* end){

int i=(\*num);

while(i<=(\*end)){

printf("%d\n",i);

i++;

}

}

Q2

//print table

#include<stdio.h>

void table(int\*);//declaration

void main(){

int num;

printf("Enter the number:");

scanf("%d",&num);

//func call

table(&num);

}

//defination

void table(int\* num){

int a;

int i=0;

while(i<10){

a=++i;

printf("%d \* %d = %d \n",(\*num),a,(\*num)\*a);

}

}

Q3

//sum of the number within given range

#include<stdio.h>

void sum\_range(int\*,int\*);//declaration

void main(){

int s=1,e=5;

sum\_range(&s,&e);//call;

}

void sum\_range(int\* s,int\* e){

int sum=0;

int i=\*s;

while(i<=(\*e)){

sum=sum+i;

i++;

}

printf("Sum is %d",sum);

}

Q4

//prime number

#include<stdio.h>

void prime(int\*);

void main(){

int num;

printf("Enter the number:");

scanf("%d",&num);

//call

prime(&num);

}

void prime(int\* num){

int i=2;

while(i<(\*num)){

if((\*num)%i!=0){

i++;

}

else{

break;

}

}

if(i==(\*num)){

printf("Number is prime");

}

else{

printf("number is not prime");

}

}

Q5

//armstrong by count of digits//4 digit 1634 3digit 153

#include<stdio.h>

#include<math.h>

void arms(int\*);

void main(){

int num;

printf("Enter the num:");

scanf("%d",&num);

arms(&num);

}

void arms(int\* num){

int rem;

int num\_O=(\*num);

int num\_2=(\*num);

int sum\_P=0;

int count=0;

while((\*num)>0){

(\*num)=(\*num)/10;

count++;

}

while(num\_2>0){

rem=num\_2%10;

num\_2=num\_2/10;//dec

//pow(base,power)

//power=pow(rem,count);

//by using loop // to calculate the power as per count

int power=1;

int cnt=count;

while(cnt!=0){

power=power\*rem;

cnt--;

}

sum\_P=sum\_P+power;

}

if(num\_O==sum\_P)

{

printf("%d is armstrong number",num\_O);

}

else{

printf("%d is not an armstrong number",num\_O);

}

}

Q6

//perfect number

#include<stdio.h>

void perfect(int\*);//declaration

void main(){

int num;

printf("Enter the number:");

scanf("%d",&num);

perfect(&num);//calling

}

//defination

void perfect(int\* num){

int sum\_F=0;

for(int i=1;i<(\*num);i++){

if((\*num)%i==0){

sum\_F=sum\_F+i;//adding factors here

}

}

// check it is perfect number or not

if((\*num)==sum\_F){

printf("It is a perfect number %d",(\*num));

}

else{

printf("It is not a perfect number %d",(\*num));

}

}

Q7

//factorial number

#include<stdio.h>

void fac(int\*);

//declaration

void main(){

int num;

printf("Enter the number:");

scanf("%d",&num);

fac(&num);

}

//defination

void fac(int\* num){

int fact=1;

int i=(\*num);

while(i>0){

fact=fact\*i;

//printf("\n fact is %d and i is %d",fact,i);

i--;

}

printf("\n factorial of %d is %d",(\*num),fact);

}

Q8

//strong number

#include<stdio.h>

//declaration

void strong(int\*);

void main(){

int num;

printf("Enter the number:");

scanf("%d",&num);

strong(&num);

}

//defination

void strong(int\* num){

int num\_O=(\*num),rem,sum\_fact=0;

while((\*num)>0){

rem=(\*num)%10;

(\*num)=(\*num)/10;//inc /dec

//for factorial

int fact=1;//for each iteration it must be 1 initialy

while(rem>0){

fact=fact\*rem;

rem--;

}

sum\_fact=sum\_fact+fact;

}

//check the sum of fact of each digit

if(num\_O==sum\_fact){

printf("It is strong number");

}

else{

printf("It is not strong number");

}

}

Q9

//palindrom num -->num==reverse of that num

#include<stdio.h>

//declaration

void palindrome(int\*);

void main(){

int num;

printf("Enter the number :");

scanf("%d",&num);

//call

palindrome(&num);

}

//defination

void palindrome(int\* num){

int num\_O=(\*num),rev=0;

// seperate the digits

int rem=0;

while((\*num)>0){

rem=(\*num)%10;

(\*num)=(\*num)/10;

rev=rev\*10+rem;

}

if(rev==num\_O){

printf("The number is palindrom %d",num\_O);

}

else{

printf("The number is not palindrom %d ",num\_O);

}

}

Q10

//sum of first and last digit of the number

#include<stdio.h>

void f\_L(int\*);//declaration

void main(){

int num;

printf("Enter the number :");

scanf("%d",&num);

f\_L(&num);//calling

}

//defination

void f\_L(int\* num){

int O\_num=(\*num);

int last\_digit,first\_digit,rem,sum=0;

last\_digit=(\*num)%10;

printf("\nlast %d",last\_digit);

while((\*num)>0){

rem=(\*num)%10;

(\*num)=(\*num)/10;

//printf("nnn");

}

first\_digit=rem;

printf("\nfirst %d",first\_digit);

sum=first\_digit+last\_digit;

printf("\nThe sum of last and first digit of the num %d is %d",O\_num,sum);

}

//////////////////////////////////////////////////

Assignment4

Q1//strong numbers

#include<stdio.h>

void stng(int\*);

void main(){

int end;

printf("Enter the end of the range:");

scanf("%d",&end);

stng(&end);

}

void stng(int\* end){

int k,rem;

printf("strong numbers are: ");

for(k=1;k<=(\*end);k++){

int num=k;

int sum\_F=0;

while(num>0){

rem=num%10;

num=num/10;

//calculate the fact of each digits

int fact=1;

while(rem>0){

fact=fact\*rem;

rem--;

}

//sum of the fact of each digits

sum\_F=sum\_F+fact;

}

//equalate sum with original number

if(k==sum\_F){

printf("%d\t",k);

}

}

}

Q2

//range prime

#include<stdio.h>

void prime(int\*);

void main(){

int end;

printf("enter the end of the range :");

scanf("%d",&end);

prime(&end);//call

}

//defination

void prime(int\* end){

int k;

for(k=1;k<=(\*end);k++){

int num=k;

//check for each k the number is prime or not

int i=2;//start mod from 2 check up to 1 no before that number

while(i<num){

//check num is completely divisible or not

if(num%i!=0){

i++;

}

else{

break;

}

}

if(i==num){

printf("%d\t",k);

}

}

}

Q3

//print the armstrong number in the given range

#include<stdio.h>

void armstrong(int\*);

void main(){

int end;

printf("enter the end of the range");

scanf("%d",&end);

armstrong(&end);

}

void armstrong(int\* end){

//1,2,3,4,5..............100

int k,rem;

printf("armstrong numbers are : ");

/\*

for(k=1;k<=end;k++){

//now check the each k is armstrong or not

int num=k;//assign k to num bcz num is going to be modify

int sum=0;//we want sum=0 for everytime when we start to check

while(num>0){

rem=num%num;

num=num/10;

sum=sum+(rem\*rem\*rem);

}

if(k==sum){

printf("%d\t",k);

}

}

\*/

for(k=1;k<=(\*end);k++){

int num=k;

int num\_2=k;

//int num=num\_2=k; k==>num\_2 and num\_2==>num

int count=0;

int sum=0;

//to check the count

while(num>0){

num=num/10;

count++;

}

//sum of the power

while(num\_2>0){

rem=num\_2%10;

num\_2=num\_2/10;

//calculate the power

int power=1;

int cnt=count;

while(cnt!=0){

power=power\*rem;

cnt--;

}

sum=sum+power;

}

//check that number is equal to that sum of the power or not ?

if(sum==k){

printf(" %d\t",k);

}

}

}

Q4

//perfect number

#include<stdio.h>

void perfect(int\*);

void main(){

int end;

printf("Enter the end:");

scanf("%d",&end);

perfect(&end);

}

void perfect(int\* end){

int k;

for(k=1;k<=(\*end);k++){

int num=k;

int sum=0;

for(int i=1;i<num;i++){

if(num%i==0){

sum=sum+i;

}

}

if(k==sum){

printf("%d\n",k);

}

}

}

Q5

//fibonacci series

#include<stdio.h>

void fibo(int\*,int\*);

void main(){

int prefib1=0;

int prefib2=0;

fibo(&prefib1,&prefib2);

}

void fibo(int\* prefib1,int\* prefib2){

int fib=0,end;

printf("Enter the range 0 to :");

scanf("%d",&end);

//solution to handle the infinity condition 1 1 1 1 -->(if)

if((\*prefib1)==0 && (\*prefib2)==0){

fib=(\*prefib2)+(\*prefib1);

printf("%d \t",fib);

(\*prefib1)++;

fib=(\*prefib2)+(\*prefib1);

printf("%d\t",fib);

}

while(fib<=end)

{

(\*prefib1)=(\*prefib2);

(\*prefib2)=fib;

fib=(\*prefib2)+(\*prefib1);

if(fib<=end){

printf("%d\t",fib);

}

}

}

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*