Type 4 with pointer

1. Finding F from C (temp).

```
#include<stdio.h>
float findingf(float*);
void main()
{
   float c;
   float ans;
   printf("\t\tEnter the Celsius: ");
   scanf("%f",&c);
   ans = findingf(&c);
   printf("\t\tFahrenheit is : %f \n",ans);

}

float findingf(float* a )
{
float f;

   f = (*a * 9/5) + 32 ;
   return f;
}
```

2. Finding area and perimeter of rectangle or circle.

```
#include<stdio.h>
int rectangle(int* ,int*);
int circle(int*);
void main()
{
        int a;
        int l;
        int w,r;
        int ansA,ansB;
                printf("Finding area and perimeter : \n 1 Rectangle \n 2 Cricle \n choose any one ");
                scanf("%d",&a);
                if(a==1)
                {
                        printf("Enter the length of rectangle : ");
                        scanf("%d",&l);
```

```
                printf("Enter the width of the rectangle: ");
                scanf("%d",&w);
        ansA =rectangle(&l,&w);
                printf("perimeter of rectangle is: %d\n",ansA);
                }else{
        if(a==2){
                printf("enter the radius of circle : ");
                scanf("%d",&r);
        ansB=circle(&r);
                printf("perimeter of circle is: %d\n",ansB);
        }
        else {
        printf("!!!!invalid option!!!!\n");
        }
        }
        }


int rectangle(int* l, int* w)
{
        int area;
        int p;
        area = *l  *  *w ;
        printf("Area of rectangle is : %d",area);
        printf("\n");
        p = 2 * (*l  +  *w ) ;
        return p;
        printf("\n");
}




int circle(int* r )
{ int area ;
int perimeter ;
int pai = 22/7;
area = pai * (*r  *  *r);
printf("area of circle is : %d",area);
printf("\n");
perimeter = 2 * pai  *  *r ;
return perimeter;
```

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

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

```
#include<stdio.h>
int reverse(int*);
int sumofdigit(int*);
int both(int*);
void main()
{
int a;
int num;
int r ;
int sum;
int nu ;
int sa;
int ra;
int ba;
                printf("Choose any one\n 1 Sum of digit \n 2 Reverse the number \n 3 Both \ntype here:
" );
                scanf("%d",&a);
                if(a==1){
                        printf("you choose sum of digit  the number\n");
                        printf("enter the number here:");
                        scanf("%d",&num);
                        sa =sumofdigit(&num);
                        printf("%d\n ",sa);
                }else{
                if(a==2){
                        printf("you choose Reverse the number\n");
                        printf("Enetr the number is here : ");
                        scanf("%d",&nu);
                        ra = reverse(&nu);
                        printf("%d\n ",ra);
                }else{
                if(a==3){
                        printf("you choose Both the number\n");
                        printf("Enetr the number is here : ");
                        scanf("%d",&num);
                        ba = both(&num);
                        printf("%d\n",ba);
                }else{
```

```
                printf("invalid input \n");
                }
                }
}
}

int sumofdigit(int* num)
{
                int r ;
                int sum;
                for(sum=0;r = *num %10; *num =  *num/10)
                {
                sum = sum + r;
                }
                printf("sum of digit is : ");
                return sum;
}

int reverse(int* nu)
{
        int re ;
        int r ;
        for(re=0;r= *nu%10; *nu = *nu/10)
        {
                re = re *10 + r;
        }
        printf("the reverse value is : ");
        return re;
}

int both(int* num)
{
                int sum;
                int P = *num;
                int r;
                int reverse=0;
                int rem;
                for(sum = 0;r = P%10 ; P = P/10)
                {
                        sum = sum + r ;
                        reverse = reverse * 10 + r;
                }
```

```
                printf("sum of digit is : %d \n",sum);
                printf("reverse the number : ");
                return reverse;
                printf("\n");
}
```

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

```
#include<stdio.h>
int evenodd(int*);
void main()
{
        int num ;
        int x;
        printf("enter the number here : ");
        scanf("%d",&num);
        x = evenodd(&num);
        printf("%d\n",x);
}

int evenodd(int* num)
{
if(*num%2==0)
        {
        printf("its even number : ");
        return *num;
        }
        else{
        printf("its odd number ");
        return *num;
        }
}
```

5. 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 less(int*);
int other(int*);
void main()
{
        int salary;
        int da,ta,hra;
```

```
	int t;
	printf("Enter the salary : ");
	scanf("%d",&salary);
		if(salary<=5000 )
		{
		t =less(&salary);
		printf("so salary is include Hra,Ta and Da : %d\n",t);
		}
		else{
		t = other(&salary);
		printf("so salary is include Hra,Ta and Da : %d\n",t);
		}
}

int less(int* salary)
{
	float da,ta,hra;
	int total;
	da = *salary * 10/100;
	ta = *salary * 15/100;
	hra = *salary *25/100;
	printf("you get 10 and 20 and 25 percent on Hra,Ta and Da \n");
	total = *salary + da + ta + hra;
	return total;
}
int other(int* salary)
{
	float da,ta,hra;
	int total;
	da = *salary * 15/100;
	ta = *salary * 25/100;
	hra = *salary * 30/100;
	printf("you get 15 and 25 and 30 percent on Hra,Ta and Da \n");
	total = *salary + da + ta + hra;
	return total;
}
```

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

```
#include<stdio.h>
int fivep(int*);
int tenp(int*);
void main()
{
int x , price,five,total,tend;
printf("Get discount on price \n");
printf("Enter the price : ");
scanf("%d",&price);
if(price<500)
{
        x = fivep(&price);
        printf("so price is : %d\n",x);
}
else
{
x = tenp(&price);
printf("so price is : %d\n",x);
}
}

int fivep(int* price)
{
        int five,total;
        five = *price * 0.05;
        total = *price - five;
        printf("you get 5 Percent discount ");
        return total;
}

int tenp(int* price)
{
        int tend;
        int total;
        tend = *price * 0.10;
        total = *price - tend;
        printf("you get 10 Percent discount ");
        return total;
}
```

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

```
#include<stdio.h>
int findbig(int*,int*,int*);
void main()
{
int m,a,b,c;
                printf("\t\tWelcome Find big number\n");
                printf("\tEnter the three number here :\n");
                printf("\tEnter the First number A: ");
                scanf("%d",&a);
                printf("\tEnter the second number B: ");
                scanf("%d",&b);
                printf("\tEnter the third number C : ");
                scanf("%d",&c);
                m = findbig(&a,&b,&c);
                printf("And number is : %d \n",m);
                printf("\t\tThank you \n");
}

int findbig(int* a, int* b,int* c)
{
        int max;
        if (*a>*b && *a>*c){
        printf("\ta is max ");
        return *a;
        }else{
        if (*b>*c && *b>*a){
        printf("\tb is max ");
        return *b;
        }else{
        if (*c>*b && *c>*a)
        printf("\tc is max ");
        return *c;
        }
}}
```

8. Accept two numbers from user and an operator (+,-,/,*,%) based on that perform the desired operations.

```
#include<stdio.h>
int add(int*,int*);
int sub(int*,int*);
int mult(int*,int*);
int divi(int*,int*);
int Rem(int*);
void main()
{
int a,num1,num2,total ,asum,subb,mu,di,ree;
printf("\t**********Menu**********:\n");
printf("\n\t 1 Addition \n\t 2 Substraction \n\t 3 Multiplication \n\t 4 Division \n\t 5remender \n\n
Choose any one : ");
scanf("%d",&a);
if(a==1){
printf("\nEnter the two number here :\n");
printf("Enter the First number: ");
scanf("%d",&num1);
printf("Enter the Second Number : ");
scanf("%d",&num2);
asum = add(&num1,&num2);
printf("sum is : %d \n",asum);
}else{if(a==2)
{
printf("Enter the two number here :\n");
printf("Enter the First number: ");
scanf("%d",&num1);
printf("Enter the Second Number : ");
scanf("%d",&num2);
subb = sub(&num1,&num2);
printf("Substration is: %d \n",subb);
}else{if(a==3)
{
printf("Enter the two number here :\n");
printf("Enter the First number: ");
scanf("%d",&num1);
printf("Enter the Second Number : ");
scanf("%d",&num2);
mu = mult(&num1,&num2);
printf("Multification is : %d \n",mu);
}else{
```

```
if(a==4){
printf("Enter the two number here :\n");
printf("Enter the First number: ");
scanf("%d",&num1);
printf("Enter the Second Number : ");
scanf("%d",&num2);
di=divi(&num1,&num2);
printf("Division is %d\n",di);
}else{
if(a==5){
printf("Enter the one number here :\n");
printf("Enter the First number: ");
scanf("%d",&num1);
ree= Rem(&num1);
printf("Remender is %d\n",ree);
}else
{
printf("invalid\n");
}
}
}
}
}
}
int add(int* num1, int* num2)
{
int total;
total = *num1 + *num2 ;
return total;
}
int sub(int* num1,int* num2)
{
int total;
total = *num1 - *num2 ;
return total;
}
int mult(int* num1 ,int* num2)
{
int total;
total = *num1 * *num2 ;
return total;
}
```

```
int divi(int* num1,int* num2 )
{
int total;
total = *num1 / *num2 ;
return total;
}
int Rem(int *num1)
{
int total;
total = *num1 % 10 ;
return total;
}
```

9. 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 evenodd(int*);
float findingf(float*);
int findbig(int*,int*,int*);
int add(int*,int*);
int sub(int*,int*);
int mult(int*,int*);
int divi(int*,int*);
int Rem(int*);
int less(int*);
int other(int*);
void main()
{
int a;
int salary;
int da,ta,hra;
int t;
printf("\t**********Menu**********:\n");
printf("\n\t 1 Even or odd \n\t 2 +-*/ \n\t 3 find cel \n\t 4 find big number \n\t 5 Basic Salary \n Choose any one : ");
scanf("%d",&a);
if(a==1){
int num ;
int x;
printf("enter the number here : ");
scanf("%d",&num);
x = evenodd(&num);
```

```
printf("%d\n",x);
}else{
if(a==2){
                                                int a,num1,num2,total ,asum,subb,mu,di,ree;
                                                printf("\t**********Menu**********:\n");
                                                printf("\n\t 1 Addition \n\t 2 Substraction \n\t 3
Multiplication \n\t 4 Division \n\t 5remender \n\n Choose any one : ");
                                                scanf("%d",&a);
                                                if(a==1){
                                                printf("\nEnter the two number here :\n");
                                                printf("Enter the First number: ");
                                                scanf("%d",&num1);
                                                printf("Enter the Second Number : ");
                                                scanf("%d",&num2);
                                                asum = add(&num1,&num2);
                                                printf("sum is : %d \n",asum);
                                                }else{if(a==2)
                                                {
                                                printf("Enter the two number here :\n");
                                                printf("Enter the First number: ");
                                                scanf("%d",&num1);
                                                printf("Enter the Second Number : ");
                                                scanf("%d",&num2);
                                                subb = sub(&num1,&num2);
                                                printf("Substration is: %d \n",subb);
                                                }else{if(a==3)
                                                {
                                                printf("Enter the two number here :\n");
                                                printf("Enter the First number: ");
                                                scanf("%d",&num1);
                                                printf("Enter the Second Number : ");
                                                scanf("%d",&num2);
                                                mu = mult(&num1,&num2);
                                                printf("Multification is : %d \n",mu);
                                                }else{
                                                if(a==4){
                                                printf("Enter the two number here :\n");
                                                printf("Enter the First number: ");
                                                scanf("%d",&num1);
                                                printf("Enter the Second Number : ");
                                                scanf("%d",&num2);
                                                di=divi(&num1,&num2);
```

```
                                        printf("Division is %d\n",di);
                                        }else{
                                        if(a==5){
                                        printf("Enter the one number here :\n");
                                        printf("Enter the First number: ");
                                        scanf("%d",&num1);
                                        ree= Rem(&num1);
                                        printf("Remender is %d\n",ree);
                                        }else
                                        {
                                        printf("invalid\n");
                                        }
                                        }
                                        }
                                        }
                                        }
}else{
if(a==3){
                float c;
                float a;
                printf("\t\tEnter the Celsius: ");
                scanf("%f",&c);
                a = findingf(&c);
                printf("\t\tTemperature in Fahrenheit is : %f\n",a);
                }else{
                if(a==4){
                int m,a,b,c;
                printf("\t\tWelcome Find big number\n");
                printf("\tEnter the three number here :\n");
                printf("\tEnter the First number A: ");
                scanf("%d",&a);
                printf("\tEnter the second number B: ");
                scanf("%d",&b);
                printf("\tEnter the third number C : ");
                scanf("%d",&c);
                m = findbig(&a,&b,&c);
                printf("And number is : %d \n",m);
                printf("\t\tThank you \n");
                }else{
                if(a==5){
                printf("Enter the salary : ");
                scanf("%d",&salary);
```

```
                    if(salary<=5000 )
                    {
                    t =less(&salary);
                    printf("so salary is include Hra,Ta and Da : %d\n",t);
                    }
                    else{
                    t = other(&salary);
                    printf("so salary is include Hra,Ta and Da : %d\n",t);
                    }
                    }else{
                    printf("invalid \n");
                    }
                    }
                    }
                    }
                    }
}

int evenodd(int* num)
{
        if(*num%2==0){
        printf("its even number : ");
        return *num;
        }
        else{
        printf("its odd number ");
        return *num;
        }
}

float findingf(float* c )
{
        float f;
        f = (*c*9/5)+32;
        return f;
}

int findbig(int* a, int* b,int* c)
{
int max;
if (*a>*b && *a>*c){
printf("\ta is max ");
```

```
return *a;
}else{
if (*b>*c && *b>*a){
printf("\tb is max ");
return *b;
}else{
if (*c>*b && *c>*a)
printf("\tc is max ");
return *c;
}
}
}


int add(int* num1, int* num2)
{
	int total;
	total = *num1 + *num2 ;
	return total;
}

int sub(int* num1,int* num2)
{
	int total;
	total = *num1 - *num2 ;
	return total;
}

int mult(int* num1 ,int* num2)
{
	int total;
	total = *num1  *  *num2 ;
	return total;
}

int divi(int* num1,int* num2 )
{
	int total;
	total = *num1 / *num2 ;
	return total;
}
```

```
int Rem(int* num1)
{
	int total;
	total = *num1 % 10 ;
	return total;
}

int less(int* salary)
{
	float da,ta,hra;
	int total;
	da = *salary * 10/100;
	ta = *salary * 15/100;
	hra = *salary *25/100;
	printf("you get 10 and 20 and 25 percent on DA,Ta and Hra \n");
	total = *salary + da + ta + hra;
	return total;
}

int other(int* salary)
{
	float da,ta,hra;
	int total;
	da = *salary * 15/100;
	ta = *salary * 25/100;
	hra = *salary * 30/100;
	printf("you get 15 and 25 and 30 percent on DA,Ta and Hra \n");
	total = *salary + da + ta + hra;
	return total;
}
```

10 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>
int nonstud(int*);
int stud(int*);
void main()
{
	int y;
	int v;
	int price;
	printf( "you are studnet ( yes(1) or no(2) ):");
	scanf ("%d",&v);
	if(v == 1)
	{
	printf ("you are student so u will get discount \n");
	printf("enter the price here :");
	scanf("%d",&price);
	y =stud(&price);
	printf("price is : %d\n",y);
	}else{
	if(v == 2){
	printf ("you are non-student so u will get discount \n");
	printf("enter the price here :");
	scanf("%d",&price);
	v= nonstud(&price);
	printf("price is : %d\n",v);
	} else{
	printf("invalid option \n");
	}
	}
}

int stud(int* price)
{
	int final,total;
	if(*price>500)
	{
	final = *price * 0.2;
	total = *price -final;
	printf(" you are student and you get 20Percent off bcz price is more than 500 \n");
```

```
        return total;
        }else
        {
        final = *price * 0.1;
        total = *price -final;
        printf(" you are student and you get 10 Percent off bcz of price is less than 500 \n");
        return total;
        }
}

int nonstud(int* price)
{
        int final,total;
        if(*price>600)
        {
        final = *price * 0.15;
        total = *price -final;
        printf("price is more the 600 so u get 15 Percent discount \n");
        return total;
        }else
        {
        printf("Sorry u are not valid for discount\n");
        return *price;
        }
}


//11. Accept a number with 1 or 2 digit from user and display it in words.
#include<stdio.h>
int displayinword(int*,int*);
void main()
{
        int a ;
        int num1 ,num2;
        printf("Enter the First number :");
        scanf("%d",&num1);
        printf("Enter the Second number :");
        scanf("%d",&num2);
        printf("In Word : ");
        displayinword(&num1,&num2);
        printf("\n");
}
```

```
int displayinword(int* num1,int* num2)
{
 if (*num1<20)
{
if(*num1 == 0)
printf("ZERO");
if(*num1 == 1)
printf("one");
if(*num1 == 2)
printf("two");
if(*num1 == 3)
printf("three");
if(*num1 == 4)
printf("four");
if(*num1 == 5)
printf("five");
if(*num1 == 6)printf("six");
if(*num1 == 7)
printf("seven");
if(*num1 == 8)
printf("eight");
if(*num1 == 9)
printf("nine");
if(*num1 == 10)
printf("ten");
if(*num1 == 11)
printf("Eleven");
if(*num1 == 12)
printf("Twelve");
if(*num1 == 13)
printf("Thirteen");
if(*num1 == 14)
printf("Fourteen");
if(*num1 == 15)
printf("Fifteen");
if(*num1 == 16)
printf("Sixteen");
if(*num1 == 17)
printf("Seventeen");
if(*num1 == 18)
printf("Eighteen");
```

```
if(*num1 == 19)
printf("Nineteen");
if(*num1 == 20)
printf("Twenty");
} else
{
printf("not valid ");
}
printf(" ");
if(*num2<20)
{
if(*num2 == 0)
printf("ZERO");
if(*num2 == 1)
printf("one");
if(*num2 == 2)
printf("two");
if(*num2 == 3)
printf("three");
if(*num2 == 4)
printf("four");
if(*num2 == 5)
printf("five");
if(*num2 == 6)
printf("six");
if(*num2 == 7)
printf("seven");
if(*num2 == 8)
printf("eight");
if(*num2 == 9)
printf("nine");
if(*num2 == 10)
printf("Ten");
if(*num2 == 11)
printf("Eleven");
if(*num2 == 12)
printf("Twelve");
if(*num2 == 13)
printf("Thirteen");
if(*num2 == 14)
printf("Fourteen");
if(*num2 == 15)
```

```
printf("Fifteen");
if(*num2 == 16)
printf("Sixteen");
if(*num2 == 17)
printf("Seventeen");
if(*num2 == 18)
printf("Eighteen");
if(*num2 == 19)
printf("Nineteen");
if(*num2 == 20)
printf("Twenty");
} else
{
printf("not valid ");
}
}
```

12 Find out the Factorial of any number ?

```
#include <stdio.h>
int factorial(int*);
void main()
{
        int f ,ans ;
        printf("\n Enter the number :  ");
        scanf("%d",&f);
        ans = factorial(&f);
        printf("\n %d Factorial is : %d\n",f,ans);
}

int factorial(int* a)
{
        int f;
int i=1;
for(f=1;i<= *a;i++)
{
f = f*i;
}

return f;

}
```