***C-Programming***

**PRACTICAL No. 5**

**Q1) Addition of two numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int a, b, sum;

clrscr();

printf("Enter two numbers:\n");

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

sum=a+b;

printf("The sum of the two numbers = %d \n", sum);

getch();

}

**OUTPUT :**

Enter two numbers: 5 6

The sum of the two numbers = 11

**Q2) Subtraction of two numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int a, b, Sub;

clrscr();

printf("Enter two numbers:\n");

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

Sub=a-b;

printf("The Subtraction of the two numbers = %d \n", Sub);

getch();

}

**OUTPUT :**

Enter two numbers : 11 2

The Subtraction of the two numbers = 9

**Q3) Multiplication of two numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int a, b, Mul;

clrscr();

printf("Enter two numbers:\n");

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

Mul =a\*b;

printf("The Multiplication of the two numbers = %d \n", Mul);

getch();

}

**OUTPUT :**

Enter two numbers : 3 5

The Multiplication of the two numbers = 15

**Q4) Division of two numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int a, b;

float Div;

clrscr();

printf("Enter two numbers:\n");

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

Div =a/b;

printf("The Division of the two numbers = %.2f \n", Div);

getch();

}

**OUTPUT :**

Enter two numbers: 15 5

The Division of the two numbers = 3

**Q5) Average of three numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int a, b, c, sum;

float avg;

clrscr();

printf("\n Enter value of a");

scanf("%d", &a);

printf("Enter value of b");

scanf("%d", &b);

printf("Enter value of c");

scanf("%d", &c);

sum=a+b+c;

printf("\n Sum of three numbers = %d", sum);

avg=sum/3;

printf("\n The Average of three numbers = %f", avg);

getch();

}

**OUTPUT :**

Enter value of a 5

Enter value of b 6

Enter value of c 10

The Average of three numbers = 7

**Q6) Area of a triangle.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int H, B;

float Area;

clrscr();

printf("\n Enter the Base value = ");

scanf("%d", &B);

printf("\n Enter the Height value = ");

scanf("%d", &H);

Area=0.5\*B\*H;

printf("The area of Triangle is = %f",Area);

getch();

}

**OUTPUT :**

Enter the Base value = 2

Enter the Height value = 4

The area of Triangle is = 4

**Q7) Area of a circle.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

float r, Pi=3.14, AoC;

clrscr();

printf("\n\n\t Enter the Radius of Circle = ");

scanf("%f", &r);

AoC=Pi\*r\*r;

printf("\n\n\t\t The Area of Circle is = %fsq.cm. ",AoC);

getch();

}

**OUTPUT :**

Enter the Radius of Circle = 0.2

The Area of Circle is = 0.1256 sq.cm.

**Q8) Input the rate and hours & calculate payment.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int r, h;

float pay;

clrscr();

printf("Enter rate per hour: ");

scanf("%d", &r);

printf("Enter hours worked: ");

scanf("%d", &h);

pay=r\*h;

printf("The amount of payment = Rs %.2f", pay);

getch();

}

**OUTPUT :**

Enter rate per hour: 40

Enter hours worked: 15

The amount of payment = Rs 600.00

**Q9) Input 5 subject marks, calculate total and percentage. Print the same and check if student is pass or fail.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int eng, mat, mar, hin, sci, tot;

float perc;

char name;

clrscr();

printf("\n Name of the Student:");

scanf("%s", &name);

printf("\n Marks of English=");

scanf("%d", &eng);

printf("\n Marks of Maths=");

scanf("%d", &mat);

printf("\n Marks of Marathi=");

scanf("%d", &mar);

printf("\n Marks of Hindi=");

scanf("%d", &hin);

printf("\n Marks of Science=");

scanf("%d", &sci);

tot=eng+mat+mar+hin+sci;

perc=tot/5;

printf("\n The Total Marks = %d", tot);

printf("\n The Percentage = %.2f", perc);

if(perc>35)

printf("\n Student is Pass");

else

printf("\n Student is Fail");

getch();

}

**OUTPUT :**

Name of the Student: Rohan Sonar

Marks of English = 86

Marks of Maths = 85

Marks of Marathi = 84

Marks of Hindi = 89

Marks of Science = 80

The Total Marks = 424

The Percentage = 84.80

Student is Pass

**Q10) Input a number and check whether it is divisible by 3 or not.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int N;

clrscr();

printf("\n Input a number :");

scanf("%d", &N);

if(N%3==0)

printf("\t The inputted number is Divisible by 3") ;

else

printf("\t The inputted number is not Divisible by 3");

getch();

}

**OUTPUT :**

Input a number : 6

The inputted number is Divisible by 3

**Q11) Input a number and check if it divisible by 5 and 7.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int Num;

clrscr();

printf("\t \n Enter a number");

scanf("%d", &Num);

if(Num%5==0 && Num%7==0)

printf("\n \t\t The number is Divisible by 5 and 7");

else

printf("\n \t\t The number is not divisible by 5 and 7");

getch();

}

**OUTPUT :**

Enter a number 35

The number is Divisible by 5 and 7

**Q12) Input a character and check whether it is a vowel or a consonant.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char ch;

clrscr();

printf("Enter the character");

scanf("%c", ch);

if(ch=='a' ||ch=='A'||ch=='e' ||ch=='E'||ch=='i'||ch=='I'||ch=='o'||ch=='O'||ch=='u'||ch=='U')

printf("Character is Vowel");

else

printf("Character is Consonant");

getch();

}

**OUTPUT :**

Enter the character O

Character is Vowel

**PRACTICAL No. 6**

**Q1)** Write a program to input the Telephone number and number of calls made. Calculate and display the bill amount which includes a fixed rent of 250, the first 60 calls are free and excess calls are charged @ 80 paise each.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

long TN;

int N;

float Bill;

clrscr();

printf("\n \n \t Enter the Telephone number and number of calls made");

scanf("%ld %ld", &TN, &N);

if(N<=60)

Bill=250;

else

Bill=250+((N-60)\*0.80);

printf("\n\n \t The Bill amount = %.2f \n",Bill);

getch();

}

**OUTPUT :**

Enter the Telephone number and number of calls made 25462542 85

The Bill amount = 270

**Q2)** In a factory weekly wages of workers is calculated as follows: -

First 35 hours is considered as regular hours. Hours exceeding 35 is considered as over time. Write a program to input workers name (wn), hours worked (hr) and rate per hour (r) and display workers name, regular wage, overtime wage and total wage, Where overtime wages is paid at 2 times the rate.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char wn[20];

float hr, r, otw, rw, tw;

clrscr();

printf("\n \n \t Enter worker name, hours worked and rate per hour");

scanf("%s %f %f", wn, &hr, &r);

if(hr>35)

{

rw=35\*r;

otw=(hr-35)\*2\*r;

}

else

{

rw=hr\*r;

otw=0;

}

tw=rw+otw;

printf("\n \n \t Name : %s \n", wn);

printf("\n \t Regular wage=%.2f \n", rw);

printf("\n \t Over time wage=%.2f \n", otw);

printf("\n \t Total wage=%.2f\n", tw);

getch();

}

**OUTPUT :**

Enter worker name, hours worked and rate per hour Amit Sinha 50 50

Name : Amit Sinha

Regular Wage = 2500.00

Overtime Wage = 1500.00

Total Wage = 4000.00

**Q3)** Write a program to accept employee no. (eno), basic salary (bs) from the keyboard. Calculate and display dearness allowance (da) as 120% of basic salary, house rent allowance (hra) as 20% of basic salary or Rs.3,000 whichever is less, special allowance (sa) as 15% of basic salary whenever basic salary in over Rs. 3,500 otherwise no special allowance is to be given and gross salary (gs) which is (gs=ba+da+hra+sa).

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int eno;

float bs,da,hra,sa,gs;

clrscr();

printf("\n \n \t Enter employee number and basic salary");

scanf("%d %f", &eno, &bs);

da=bs\*1.20;

hra=bs\*0.20;

if(hra>3000)

hra=3000;

if(bs>3500)

sa=bs\*0.15;

else

sa=0;

gs=bs+da+hra+sa;

printf("\n \n \t D.A. = %.2f\n", da);

printf("\n \t H.R.A. = %.2f \n", hra);

printf("\n \t Gross Salary = %.2f\n", gs);

getch();

}

**OUTPUT :**

Enter employee number and basic salary 101 35000

D.A. = 42000.00

H.R.A. = 3000.00

S.A. = 5250.00

Gross Salary = 85250.00

**Q4)** Write a program to input meter number, current reading, previous reading and consumer type (residential (r) or commercial (c)). Calculate billing amount as per criteria given below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Residential** |  | **Commercial** |  |
| Units | Rate | Units | Rate |
| 0-100 | Rs. 3.5 per unit | 0-500 | Rs. 7.00 per unit |
| Above 100 | Rs. 5.5 per unit | Above 500 | Rs. 11.50 per unit |

Display the bill showing meter number, current reading, previous reading, units consumed, type and billing amount.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char mn[10];

long int cr, pr, u;

float b;

chartyp;

clrscr();

printf("\n \n \t Enter Meter no., type residential (r) or commercial (c), current reading and previous reading");

scanf("%s %c %ld %ld", mn, &typ, &cr, &pr);

u=cr-pr;

if(typ=='r')

{

if(u<=100)

b=u\*3.5;

else

b=100\*3.5+(u-100)\*5.5;

}

else

{

if(u<=500)

b=u\*7;

else

b=500\*7+(u-500)\*11.5;

}

printf("\n\n\t Meter No. = %s\n",mn);

printf("\n\t Current Reading = %ld Previuos reading = %ld\n",cr,pr);

printf("\n\t Units Consumed = %ld Type = %c\n",u,typ);

printf("\n\t Bill Amount = %.2f \n",b);

getch();

}

**OUTPUT :**

Enter Meter no., type residential (r) or commercial (c), current reading and previous reading

114578701 c 900 450

Meter No. = 114578701

Current Reading = 900

Previous reading = 450

Units Consumed = 450

Type = c

Bill Amount = 3150.00

**Q5)** Write a program to accept sales from the keyboard and calculate and display sales tax as per the following :

|  |  |
| --- | --- |
| **Sales** | **Sales Tax** |
| Upto Rs. 5,000 | 5% of sales |
| Between Rs. 5,000 and upto Rs. 9,000 | 10% of sales |
| Over Rs. 9,000 | 12% of sales |

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

float s, st;

clrscr();

printf("\n \n \t Enter the sales =");

scanf("%f", &s);

if(s<=5000)

st=s\*0.05;

else if(s>5000 && s<=9000)

st=s\*0.10;

else

st=s\*0.12;

printf("\n \n \t Sales Tax = %.2f\n",st);

getch();

}

**OUTPUT :**

Enter the sales = 600

Sales Tax = 600.00

**PRACTICAL No. 7**

**Q1)** Input the Purchase amount & code. If purchase amount exceed 10,000.then discount of 15% is given else discount of 8% is given. Calculate discount & net amount. Print code, purchase amount, discount & net amount.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char c;

float pa, d, na;

clrscr();

printf("Enter purchase amount and code");

scanf("%f %s ", &pa, &c);

if(pa>=10000)

{

d=pa\*.15;

na=pa-d;

}

else

{

d=pa\*.08;

na=pa-d;

}

printf("Code : %s\n”,c);

printf("Purchase Amount : %.2f\n",,pa);

printf("Discount Amount : %.2f\n”,d);

printf("Net Amount : %.2f",na);

getch();

}

**OUTPUT :**

Enter purchase amount and code 11000 P1

Code : P1

Purchase Amount : 11000.00

Discount Amount : 1650.00

Net Amount : 9350.00

**Q2)** Input numbers of years and rate of interest & principle amount calculate simple interest & print it.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

float P, R, N, SI;

clrscr();

printf("\n Enter the Invested amount");

scanf("%f", &P);

printf("\n Enter the Rate of Interest");

scanf("%f", &R);

printf("\n Enter the Period of Investment in Years");

scanf("%f", &N);

SI=(P\*R\*N)/100;

printf("\n \t Simple Interest is = %f", SI);

getch();

}

**OUTPUT :**

Enter the Invested amount 5000

Enter the Rate of Interest 2.5

Enter the Period of Investment in Years 3

Simple Interest is = 375.00

**Q3)** Input salesmen name sales amount if sales amount exceeds 20,000then commission of5% is given if less than 10,000 then 2% commission is given & if it is between 10,000& & 20,000 then commission of 3% is given. Display SN. SA, Comm of salesman.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char nm[10];

float sa, c;

clrscr();

printf("Enter Name of Salesman : ");

scanf("%s", &nm);

printf("Enter Sales Amount : ");

scanf("%f", &sa);

if(sa<10000)

c=sa\*.02;

else if(sa>=10000&&sa<20000)

c=sa\*.03;

else

c=sa\*.05;

printf("Salesman : %s\n",nm);

printf("Commission = %.2f",c);

getch();

}

**OUTPUT :**

Enter Name of Salesman : Sameer Jain

Enter Sales Amount : 5000

Salesman : Sameer Jain

Commission = 100.00

**Q4) Display 1 to 10 numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int i;

clrscr();

for(i=1;i<=10;i++)

{

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

}

getch();

}

**OUTPUT :**

1

2

3

4

5

6

7

8

9

10

**Q5) Display sum of 1to 10 numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int i, sum=0;

clrscr();

for(i=1;i<=10;i++)

{

sum=sum+i;

}

printf("The sum of 1to 10 numbers = %d", sum);

getch();

}

**OUTPUT :**

The sum of 1to 10 numbers = 55

**Q6) Display Even numbers from 1 to 10.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

inti ;

clrscr();

printf("Even Numbers :\n");

for(i=2;i<=10;i=i+2)

{

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

}

getch();

}

**OUTPUT :**

Even Numbers :

2

4

6

8

10

**Q7) Display square of all 1to 10 natural numbers.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int i ;

clrscr();

for(i=1;i<=10;i++)

{

printf(“\n\t %d”,i\*i);

}

getch();

}

getch();

}

**OUTPUT :**

1

4

9

16

25

36

49

64

81

100

**Q8) Write a program for the following series 1/2+2/3+3/4+………….+9/10**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

float i, x=2, s=0;

clrscr();

for(i=1;i<=9;i++)

{

s=s+(i/x);

x+=1;

}

printf("\n \n Sum of series = %.2f",s);

getch();

}

**OUTPUT :**

Sum of series = 7.07

**Q9)** **Write the program for the following series 1/12+1/22 +1/32 +……………+1/202.**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

floati;

float x=1, p, Sum=0;

clrscr();

for(i=1;i<=20;i++)

{

p=i\*i;

Sum=Sum+(x/p);

}

printf("Sum of series = %f", s);

getch();

}

**OUTPUT :**

Sum of series = 1.596163

**Q10) Write a program for the following series 2+4+6+…….+10**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int i;

float sum=0;

clrscr();

for(i=2;i<=10;i+=2)

{

sum=sum+i;

}

printf("Sum of series = %.2f", s);

getch();

}

**OUTPUT :**

Sum of series = 30.00

**Q11) Series 2/5+4/8+6/11+…………+202/305**

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

int y=5;

float x, sum=0;

clrscr();

for(x=2;x<=202;x=x+2)

{

sum=sum+(x/y);

y=y+3;

}

printf("\n\t Sum=%f", sum);

getch();

}

**OUTPUT :**

Sum=65.36

**Q12)** Write a Program to input name of a employee (ename)and his basic salary (bs). Calculate DA at 80% of basic salary, HRA at 15% of basic salary, & 9% of CCA. Calculate Gross salary where [Gross salary= basic salary+HRA+DA+CCA]. Calculate provident fund (PF) 1% on gross salary and net amount. Display ename, bs, gross salary, DA, HRA, CCA, PF & net amount of employee.

**Answer: -**

#include<stdio.h>

#include<conio.h>

void main()

{

char nm[10];

float bs, da, hra, cca, pf, gs, na;

clrscr();

printf("\n \t Enter the Name of Employee =");

scanf("%s", &nm);

printf("\n \t Enter the Basic Salary of employee =");

scanf("%f", &bs);

da=bs\*.8;

hra=bs\*.15;

cca=bs\*.09;

gs=bs+da+hra+cca;

pf=gs\*.01;

na=gs-pf;

printf("\n \t The Name of Employee = %s\n", nm);

printf("\n \t Basic Salary of employee = %.2f\n", bs);

printf("\n \t D.A. = %.2f\n", da);

printf("\n \t H.R.A. = %.2f\n", hra);

printf("\n \t C.C.A. = %.2f\n", cca);

printf("\n \t P.F. = %.2f\n", pf);

printf("\n \t G.S. = %.2f\n", gs);

printf("\n \t N.S. = %.2f\n", na);

getch();

}

**OUTPUT :**

Enter the Name of Employee = Laxman

Enter the Basic Salary of employee = 45000

The Name of Employee = Laxman

Basic Salary of employee = 45000.00

D.A. = 36000.00

H.R.A. = 6750.00

C.C.A. = 4050.00

P.F. = 918.00

G.S. = 91800.00

N.S. = 90882.00

**Q13) Display table of 5 in the format,**

5 \* 1 = 5

5 \* 2 = 10

5 \* 3 = 15

: : : :

: : : :

5 \* 10 = 50

**Answer: -**

# include <stdio.h>

#include <conio.h>

void main()

{

int i;

clrscr();

for (i=1;i<=10;i++)

{

printf(“\n \t The Table of 5 in the format :-”);

printf("\n\ t 5 \* % d = % d \n ", i, 5 \* i);

}

getch();

}

**OUTPUT :**

The Table of 5 in the format :-

5\*1=5

5\*2=10

5\*3=15

5\*4=20

5\*5=25

5\*6=30

5\*7=35

5\*8=40

5\*9=45

5\*10=50