PROGRAMING C

```c
#include <stdio.h>

#include <stdlib.h>


//Q-1 int

main()

{

    printf("Sudheera Dinushan Basnayaka\n");

    printf("A\Niwaththaka chethiya maha
Vidyalaya\n");

}


//Q-2 int

main()

{
```

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

//Q-3 int
main()
{
    int itemno,qty;    char
desc[20];    float
price,tprice;
printf("Item Number");
scanf("%d",&itemno);
```

```c
    printf("Enter The Item Description");
    scanf("%s",&desc); printf("Enter Item
                                        Quantity");
    scanf("%d",&qty);     printf("Enter
Item  Price");       scanf("%f",&price);
tprice=qty*price;      printf("Item no
%d\n",itemno);
printf("Description      %s\n",desc);
printf("Total price %.2f\n",tprice);
}


//Q-4 int
main()
{
    int no1,no2,total;
```

```c
    printf("Enter First Number");
    scanf("%d",&no1);
    printf("Enter Second Number");
scanf("%d",&no2);
total=no1+no2;    printf("The
total is %d\n",total);
}




//Q-5 int
main()
{
    float no1,no2,average;
```

```c
    printf("Enter First Number");
    scanf("%f",&no1); printf("Enter Second
    Number");
    scanf("%f",&no2);
average=(no1+no2)/2;    printf("The
average is %f\n",average);
}

//Q-6 int
main()
{
    char name[20];    int
byear,age;    printf("Enter
Student Name");
scanf("%s",&name);
printf("%s\n",name);
```

```c
    printf("Enter Birth Year");
    scanf("%d",&byear); age=2023-byear;
    printf("%d\n",age);
}


//Q-8 int
main()
{
    printf("The color: %s\n", "blue");
printf("First number: %d\n", 12345);
printf("Second number: %04d\n", 25);
printf("Third number: %i\n", 1234);
printf("Float number: %3.2f\n", 3.14159);
printf("Hexadecimal: %x\n", 255);
printf("Octal: %o\n", 255);     printf("Unsigned
```

value: %u\n", 150);   printf("Just print the percentage sign %%\n", 10);

}

Output :- The

color: blue

First number: 12345

Second number: 0025

Third number: 1234

Float number: 3.14

Hexadecimal: ff

Octal: 377

Unsigned value: 150

Just print the percentage sign %

```
    return 0;

}
```

LAB 02

```c
#include <stdio.h>
#include <stdlib.h>
//Question 1 int
main()
{    int
age;
    printf("HI,HOW OLD ARE YOU?");
scanf("%d",&age);
```

```c
printf("WELCOME%d\n",age); printf("LET'S BE
FRIENDS\n");
}

//Question 2 int
main()
{
    printf("%5d%5d%5d\n", 2, 4, 8);
printf("%5d%5d%5d\n", 3, 9, 27);
printf("%5d%5d%5d\n", 4, 16, 64);
}

//Question 3 int
main()
{
```

```c
    float average,distance,time; printf("Enter distance in meters"); scanf("%f",&distance);
    printf("Enter time in seconds");
scanf("%f",&time);
average=distance/time;
printf("Average speed:%.2f",average);
}


//Question 4 int
main()
{
    float farenheit;    float celsius;
printf("Enter temperature in degrees farenheit");    scanf("%f",&farenheit);
celsius=(farenheit-32)*5/9;
printf("Temperature in degrees celsius:
```

```c
%.2f\n",celsius);
}
```

```c
#include <stdio.h>
#include <stdlib.h>
//Q-1 int
main()
{
    int n1,n2,max;
printf("Enter Two Numbers");
scanf("%d %d",&n1,&n2);
    if(n1>n2)
    max=n1;
    else
```

```c
        max=n2;    printf("The Highest
is %d\n",max);    return 0;
}


//Q-2 int
main()
{
    int n1,n2,n3,largest,smallest;

    printf("Enter Three Integer Numbers");
scanf("%d %d %d",&n1,&n2,&n3);

    largest=n1;
    if(n2>largest)
    {
largest=n2;
```

```c
    }
    if(n3>largest)
    {
        largest=n3;
    }
    smallest=n1;
if(n2<smallest)
    {
        smallest=n2;
    }
    if(n3<smallest)
    {
        smallest=n3; }
    printf("Largest Number %d\n",largest);
    printf("Smallest Number %d\n",smallest);
```

```c
    return 0;
}

//Q-3 int
main()
{
    char empname[20];    float
bs,inc,ns;    printf("Enter
Employee Name");
scanf("%s",&empname);
printf("Enter Basic Salary");
scanf("%f",&bs);
    if (bs>=10000)
        inc=bs*0.15;    else        if(bs>=5000)
inc=bs*0.10;        else            inc=bs*0.05;
ns=bs+inc;        printf("Employee Name
```

```c
%s\n",empname);        printf("New Salary
%.2f\n",ns);

    return 0;
}

//Q-4 int
main() {
float
radius;
printf("E
nter the
radius");
scanf("%f
",&radius
);
```

```c
    printf("Diameter is %.2f\n",radius*2.0);
printf("Circumference is %.2f\n",radius*2.0*3.14159);
printf("Area is %.2f\n",radius*radius*3.14159);

    return 0;
}


//Q-5 int
main()
{
    int n1,n2;    printf("Enter two integer numbers");    scanf("%d %d",&n1,&n2);    if(n1%n2==0)
    {
```

```c
        printf("%d is a multiple of %d.\n",n1,n2);
    }
    else
    {
        printf("%d s not a multiple of %d.\n",n1,n2);
    }

    return 0;
}

//Q-6 int
main()
{
    char uppercase[]={'A', 'B', 'C'};
char lowercase[]={'a', 'b', 'c'};
```

```c
char digits[]={'0', '1', '2'};    char
symbols[]={'$', '*', '+', '/', ' '};
printf("Uppercase letters\n");    for
(int i=0;i<3;i++)
   {
      printf("%c
%d\n",uppercase[i],(int)uppercase[i]);
   }
   printf("\nLowercase letters\n");
for (int i=0;i<3;i++)
   {
      printf("%c
%d\n",lowercase[i],(int)lowercase[i]);
   }
   printf("\nDigits\n");
for (int i=0;i<3;i++)
```

```c
    {
        printf("%c %d\n",digits[i],(int)digits[i]);
    }
    printf("\nSymbols\n");
for (int i=0;i<5;i++)
    {
        printf("%c %d\n",symbols[i],(int)symbols[i]);
    }

    return 0;
}

//Q-7 int
main()
{
```

```c
    float BasicSalary,MonthlySales;    int YearsOfService;    char City;
    float AdditionalAllowance;
    float Bonus;    float GrossRemuneration;

    printf("Enter the Basic Salary");
    scanf("%f",&BasicSalary);

    printf("Enter the number of Years Of Service");    scanf("%d",&YearsOfService);

    printf("Enter the City (C for Colombo,any other character for other cities)");
    scanf("%c",&City);
```

```c
    printf("Enter the Monthly Sales amount");
scanf("%f",&MonthlySales);


    if (YearsOfService>5){

            AdditionalAllowance=0.1*BasicSalary;

    }
    if (City=='C'){

AdditionalAllowance=AdditionalAllowance+2500;

    }
    if (MonthlySales>=0 && MonthlySales <= 25000){

        Bonus=0.1*MonthlySales;

    }
    else if (MonthlySales > 25000 && MonthlySales <= 50000){
```

```c
        Bonus=0.12*MonthlySales;
    }
    else if (MonthlySales > 50000){
        Bonus=0.15*MonthlySales;
    }
    GrossRemuneration=BasicSalary + AdditionalAllowance + Bonus;
    printf("Gross Monthly Remuneration is %.2f\n",GrossRemuneration);
    return 0;
}
```

LAB 04

```c
#include <stdio.h>
#include <stdlib.h>
//Section A
```

```c
//Q-1 //Using While Loop int
main()
{    int i=0;
while(i<=100)
    {
        printf("%d",i);
i++;
    }
    return 0;
}
//Using Do-While Loop int
main()
{    int
i=0;    do
    {
```

```c
        printf("%d",i);
i++;
    }
    while(i<=100);
return 0;
}
//Using For Loop int
main()
{
    int i=0;
    for (i=0;i<=100;i++);
    {
        printf("%d",i);
    }
    return 0;
}
```

```c
//Q-2 int
main()
{
    int marks[10];
int i,total=0;
float average;

    printf("Enter the 10 marks\n");
                for (i=0;i<10;i++)
    {
        scanf("%d",&marks[i]);
total+=marks[i];
    }
    average=total/10.0;
```

```c
    print("Total marks %d\n",total);
printf("Average marks %.2f\n",average);

    if (average<50)
    {
        printf("Fail\n");
    }
    else
    {
printf("Pass\n");
    }
    return 0;
}

//Q-3 int
main()
```

```c
{
    int i,num,fac=1;
printf("Enter num");
scanf("%d",&num);
if(num<0)
    {
        printf("error");
    }
    else
    {
        for(i=1;i<=num;i++)
        {
fac*=i;
        }
        printf("factorial=%d",fac);
    }
```

```c
    return 0;
}

//Q-4 int
main()
{
    int num,sum=0,result;
    printf("Enter Number");
    scanf("%d",&num);

    while(num!=0)
    {
        result=num%10;
sum+=result;        num/=10;
    }
```

```c
    printf("sum=%d",sum);
return 0;
}

//Q-5 int
main()
{
    int num,reversedNum=0,remain;
    printf("Enter a number"); scanf("%d",&num);

    do
    {
      remain=num%10;
reversedNum=reversedNum+10+remain;
num/=10;
    }
```

```c
    while (num!=0);
printf("Reversed Number
%d\n",reversedNum);
    return 0;
}

//Q-6
int main()
{
    int base,exponent,result=1;

    printf("Enter the base");
scanf("%d",&base);
```

```c
    printf("Enter the exponent");
scanf("%d",&exponent);
if(exponent>=0)
  {
    for(int i=0;i<exponent;i++)
    {
      result*=base;
    }
else
printf("Ex
ponent
should be
a
nonnegat
ive
```

```c
        integer\n
        ");

        }

        printf("Result %d\n",result);
return 0;

}


//Q-7 int

main()

{

    int n=10;    int
first=0,second=1,next;


    printf("Fibonacci Sequence");


    for(int i=0;i<n;i++);
```

```c
    {
if(i<=1)
        {
next=i;
        }
else
        {
            next=first+second;
first=second;
second=next;
        }
        printf("%d",next);
    }
    printf("\n");
return 0;
}
```

```c
//Q-8 int
main()
{
int
number,originalNumber,remainder,result=0,n=
0
;

    printf("Enter an integer");
scanf("%d",&number);

    originalNumber=number;

    while(originalNumber != 0)
        {
```

```c
        originalNumber /= 10;

        ++n;

    }

    originalNumber = number;

    while(originalNumber != 0)

    {

        remainder=originalNumber%10;

result+=pow(remainder,n);

originalNumber/=10;

    }

    if (result==number)

    {

        printf("%d is an Armstrong number.\n", number);

    }
```

```c
    else
    {
        printf("%d is not an Armstrong number.\n", number);
    }
    return 0;
}


//Q-9 int
main()
{   char letter;   printf("ASCII values for letters A to Z:\n");   for (letter = 'A'; letter <= 'Z'; letter++)
    {
        printf("%c: %d\n", letter, letter);
    }
```

```c
    return 0;
}
//Q-10 int
main()
{
    int rows=5;    for (int
i=1; i<=rows;i++)
    {
        for (int j=1;j<=i;j++)
        {
printf("*");
        }
        printf("\n");
    }
  return 0;
}
```

```c
//Q-11 int
isPrime(int num)
{
   if (num<=1) {
return 0;
   }


   for (int i=2;i*i<=num;i++)
     {
     if (num%i==0)
     {
return 0;
     }
     }
```

```c
    return 1;
}

int main()
{
    int number;
printf("Enter a number: ");
scanf("%d",&number);

    if (isPrime(number)) {        printf("%d is a
prime number\n",number);
    } else
    {
        printf("%d is not a prime
number\n",number);
    }
```

```c
    return 0;
}


//Q-12 void printFactors(int
number)
{
    printf("Factors of %d",number);
for (int i=1;i<=number;i++)
    {
    if (number%i==0)
    {
        printf("%d",i);
    }
    }
}
```

```c
int main() {    int num;
printf("Enter an integer: ");
scanf("%d",&num);
printFactors(num);    return 0;
}


//Q-13 int
main()
{
   int num,sum=0;

   printf("Enter numbers to add (enter -1 to stop)\n");

   while (1)
```

```c
    {
    scanf("%d",&num);

    if (num==-1)
    {
break;
    }

    sum+=num;
  }

  printf("Sum %d\n",sum);
return 0;
}
//Q-14 int
main()
```

```c
{   int arr[10];   int i;

    printf("Please enter 10 integers\n");

    for (i=0;i<10;i++)
    {
        printf("Enter element %d", i + 1);
scanf("%d",&arr[i]);
    }

    printf("\nThe array you entered is\n"); for (i=0;i<10;i++)
    {
        printf("%d",arr[i]);
```

```c
    }
    return 0;
}

//Q-15
int main()
{   int arr[10];    int i;
    int evenCount=0;

    printf("Please enter 10 integers\n"); for (i=0;i<10;i++)
    {
        printf("Enter element %d",i+1);
scanf("%d",&arr[i]);
```

```c
        if (arr[i]%2==0)

        {

            evenCount++;

        }

    }


    printf("\nThe array you entered is\n");


    for (i=0;i<10;i++)

    {

        printf("%d",arr[i]);

    }
printf("\n\nThe count of even numbers in the array is %d\n",evenCount);
```

```c
    return 0;
}


//Section B
//Q-1 int
main()
{
    int numbers[10];
    int
positiveCount=0,negativeCount=0,zeroCount=0
;

    printf("Please enter 10 numbers\n");

    for (int i=0;i<10;i++)
    {
        scanf("%d",&numbers[i]);
```

```c
    }

    for (int i=0;i<10;i++)
    {
        if (numbers[i]>0)
        {
            positiveCount++;
} else if (numbers[i]<0)
        {
            negativeCount++;
        } else
        {
            zeroCount++;
        }
    }
    printf("Number of positive numbers
```

```c
%d\n",positiveCount);
printf("Number of negative numbers
%d\n",negativeCount);    printf("Number of
zeros %d\n",zeroCount);

    return 0;
}


//Q-2 int
main()
{
    int marks[10];    int
i,sum=0,max=0,min=100;
float average;

    printf("Enter the marks of 10 students\n");
```

```c
for (i=0;i<10;i++)
{
    printf("Enter the marks of student %d",i+1);
scanf("%d",&marks[i]);

    sum+=marks[i];

    if (marks[i]>max)
    {
        max=marks[i];
    }

    if (marks[i]<min)
    {
```

```c
            min=marks[i];
        }
    }

    average=(float)sum/10;

    printf("\nMaximum marks %d\n",max);
printf("Minimum marks %d\n",min);
printf("Average marks %.2f\n",average);
return 0;
}

//Q-3 int
main() {
    float price[10];
```

```c
    int count=0;
float sum=0;

    printf("Please enter the prices of
10 items\n");    for (int i=0;i<10;i++)
    {
        printf("Item %d",i+1);
scanf("%f",&price[i]);        sum+=price[i];

        if (price[i]>200)
        {
            count++;
        }
    }

    float average=sum/10;
```

```c
    printf("\nAverage price of an item %.2f\n",average);

    printf("Number of items with price greater than 200 %d\n",count);

    return 0;
}


//Q-4 int
main()
{
    int employeeNo,count=0;
    float basicSalary;

    printf("Enter the employee number and basic salary (enter -999 to stop)\n");
```

```c
while(1)
{
    printf("Employee No");
scanf("%d",&employeeNo);

    if(employeeNo==-999)
    {
break;
    }

    printf("Basic Salary");
scanf("%f",&basicSalary);

    if(basicSalary>=5000)
    {
```

```c
            count++;
        }
    }

    printf("\nNumber of employees with basic
salary >= 5000 %d\n",count);

    return 0;
}

//Q-5 int
main() {
    int employeeNumber,hoursWorked;
int
overtimePayment,overtimeExceeding4000=0;
int
```

```c
totalEmployees=0,employeesWithOvertime=0;

    const int normalOvertimeRate=150;
const int excessOvertimeRate=200;


    printf("Enter employee number (-999
to end)");
scanf("%d",&employeeNumber);


    while (employeeNumber!=-999)
    {
        printf("Enter hours worked by employee
%d",employeeNumber);
        scanf("%d",&hoursWorked);

        totalEmployees++;
```

```
    if (hoursWorked>40)

    {

        employeesWithOvertime++;

        int overtimeHours=hoursWorked-40;

overtimePayment=(normalOvertimeRate*(40o
vertimeHours))+(excessOvertimeRate*overtim
eHours);

        if (overtimePayment>4000)

        {

            overtimeExceeding4000++;

        }

}

else

    {
```

```c
        overtimePayment = 0;

    }


    printf("Employee Number %d\n",
employeeNumber);

    printf("Overtime Payment %d\n",
overtimePayment);


    printf("\nEnter employee number (-999
to end)");
scanf("%d",&employeeNumber);

    }


    float
percentageExceeding4000=(float)overtimeExce
eding4000/employeesWithOvertime*100;
```

```c
    printf("\nPercentage of employees with overtime payment exceeding Rs.4000 %.2f%%\n",percentageExceeding4000);

    return 0;
}
```

LAB 05

```c
#include <stdio.h>
#include <stdlib.h>
//Section A
//Q-1 //Using
While Loop int
main()
```

```c
{    int i=0;
while(i<=100)
   {
      printf("%d",i);
i++;
   }
   return 0;
}
//Using Do-While Loop int
main()
{
   int i=0;
do
   {
      printf("%d",i);
i++;
```

```c
    }
    while(i<=100);
return 0;
}
//Using For Loop int
main()
{    int i=0;    for
(i=0;i<=100;i++);
    {
        printf("%d",i);
    }
    return 0;
}

//Q-2 int
main()
```

```c
{
    int marks[10];
int i,total=0;
float average;

    printf("Enter the 10 marks\n");

    for (i=0;i<10;i++)
    {
        scanf("%d",&marks[i]);
total+=marks[i];
    }
    average=total/10.0;

    print("Total marks %d\n",total);
printf("Average marks %.2f\n",average);
```

```c
    if (average<50)
    {
        printf("Fail\n");
    }
    else
    {
        printf("Pass\n");
    }
    return 0;
}

//Q-3 int
main()
{
```

```c
    int i,num,fac=1;
printf("Enter num");
scanf("%d",&num);
if(num<0)
    {
        printf("error");
    }
    else
    {
        for(i=1;i<=num;i++)
        {
            fac*=i;
        }
        printf("factorial=%d",fac);
    }
    return 0;
```

```c
}

//Q-4 int
main()
{
    int num,sum=0,result;
printf("Enter Number");
scanf("%d",&num);

    while(num!=0)
    {
        result=num%10;
sum+=result;        num/=10;
    }
    printf("sum=%d",sum);
return 0;
```

```c
}

//Q-5 int
main()
{
    int num,reversedNum=0,remain;
printf("Enter a number");
scanf("%d",&num);

    do
    {
        remain=num%10;
reversedNum=reversedNum+10+remain;
num/=10;
    }
```

```c
    while (num!=0);
printf("Reversed Number
%d\n",reversedNum);
    return 0;
}

//Q-6 int
main()
{
    int base,exponent,result=1;

    printf("Enter the base");
    scanf("%d",&base);
```

```c
    printf("Enter the exponent");
scanf("%d",&exponent);
if(exponent>=0)
  {
    for(int i=0;i<exponent;i++)
    {
        result*=base;
    }
else
        printf("Exponent should be a
nonnegative integer\n");
  }
  printf("Result %d\n",result);
  return 0;
}
```

```c
//Q-7 int
main()
{
    int n=10;    int
first=0,second=1,next;

    printf("Fibonacci Sequence");

    for(int i=0;i<n;i++);
    {
if(i<=1)
        {
next=i;        }
else
        {
```

```c
        next=first+second;
first=second;
second=next;
    }
    printf("%d",next);
  }
  printf("\n");
return 0;
}

//Q-8 int
main()
{
    int
number,originalNumber,remainder,result=0,n=
0
;
```

```c
    printf("Enter an integer");
scanf("%d",&number);

    originalNumber=number;

    while(originalNumber != 0)
        {
        originalNumber /= 10;
        ++n;
        }
    originalNumber = number;

    while(originalNumber != 0)
        {
```

```c
        remainder=originalNumber%10;
result+=pow(remainder,n);
originalNumber/=10;
    }
  if (result==number)
  {
    printf("%d is an Armstrong number.\n", number);
  }
  else
  {
    printf("%d is not an Armstrong number.\n", number);
  }
  return 0;
}
```

```c
//Q-9 int
main()
{    char letter;    printf("ASCII values for letters A to Z:\n");    for (letter = 'A'; letter <= 'Z'; letter++)
   {
      printf("%c: %d\n", letter, letter);
   }
  return 0;
}
//Q-10 int
main()
{
   int rows=5;
   for (int i=1; i<=rows;i++)
```

```c
    {
        for (int j=1;j<=i;j++)
        {
printf("*");
        }
        printf("\n");
    }
  return 0;
}


//Q-11 int
isPrime(int num)
{
    if (num<=1) {
return 0;
    }
```

```c
    for (int i=2;i*i<=num;i++)
        {
        if (num%i==0)
        {
return 0;
        }
        }


    return 1;
}

int main()
{
    int number;
    printf("Enter a number: ");
```

```c
    scanf("%d",&number);

    if (isPrime(number)) {      printf("%d is a
prime number\n",number);
    } else
    {
        printf("%d is not a prime
number\n",number);
    }

    return 0;
}

//Q-12 void printFactors(int
number) {
```

```c
    printf("Factors of %d",number);
for (int i=1;i<=number;i++)
    {
    if (number%i==0)
    {
        printf("%d",i);
    }
    }
}


int main() {    int num;
printf("Enter an integer: ");
scanf("%d",&num);
printFactors(num);
    return 0;
}
```

```c
//Q-13 int
main()
{
    int num,sum=0;


    printf("Enter numbers to add (enter -1 to stop)\n");


    while (1)
    {
    scanf("%d",&num);

    if (num==-1)
    {
break;
```

```c
        }

    sum+=num;
  }

  printf("Sum %d\n",sum);
return 0;
}


//Q-14 int
main()
{    int
arr[10];
    int i;

    printf("Please enter 10 integers\n");
```

```c
    for (i=0;i<10;i++)
    {
        printf("Enter element %d", i + 1);
scanf("%d",&arr[i]);
    }

    printf("\nThe array you entered is\n");

    for (i=0;i<10;i++)
    {
        printf("%d",arr[i]);
    }
    return 0;
}
```

```c
//Q-15 int
main()
{    int
arr[10];    int
i;
    int evenCount=0;

    printf("Please enter 10 integers\n");

    for (i=0;i<10;i++)
    {
        printf("Enter element %d",i+1);
scanf("%d",&arr[i]);

        if (arr[i]%2==0)
        {
```

```c
            evenCount++;
        }
    }

    printf("\nThe array you entered is\n");

    for (i=0;i<10;i++)
    {
        printf("%d",arr[i]);
    }
printf("\n\nThe count of even numbers in the
array is %d\n",evenCount);

    return 0;
}
```

```c
//Section B
//Q-1 int
main()
{
    int numbers[10];
    int positiveCount=0,negativeCount=0,zeroCount=0
;

    printf("Please enter 10 numbers\n");

    for (int i=0;i<10;i++)
    {
        scanf("%d",&numbers[i]);
    }
```

```c
for (int i=0;i<10;i++)
{
    if (numbers[i]>0)
    {
        positiveCount++;
} else if (numbers[i]<0)
    {
        negativeCount++;
    } else
    {
        zeroCount++;
    }
}
printf("Number of positive numbers %d\n",positiveCount);
printf("Number of negative numbers
```

```c
%d\n",negativeCount);    printf("Number of zeros %d\n",zeroCount);

    return 0;
}

//Q-2 int main()
{
    int marks[10];    int i,sum=0,max=0,min=100;
    float average;

    printf("Enter the marks of 10 students\n");
    for (i=0;i<10;i++)
    {
```

```c
    printf("Enter the marks of student %d",i+1);
scanf("%d",&marks[i]);

    sum+=marks[i];

    if (marks[i]>max)
    {
        max=marks[i];
    }

    if (marks[i]<min)
    {
        min=marks[i];
    }
    }
```

```c
    average=(float)sum/10;

    printf("\nMaximum marks %d\n",max);
printf("Minimum marks %d\n",min);
printf("Average marks %.2f\n",average);
return 0;
}

//Q-3 int
main()
{    float
price[10];    int
count=0; float
sum=0;
```

```c
    printf("Please enter the prices of 10 items\n");    for (int i=0;i<10;i++)
    {
        printf("Item %d",i+1);
scanf("%f",&price[i]);        sum+=price[i];


        if (price[i]>200)
        {
            count++;
        }
    }

    float average=sum/10;
    printf("\nAverage price of an item %.2f\n",average);
```

```c
    printf("Number of items with price greater
than 200 %d\n",count);

    return 0;
}

//Q-4 int
main()
{
    int employeeNo,count=0;
float basicSalary; printf("Enter
the employee number and basic
salary (enter -999 to stop)\n");

    while(1)
    {
```

```c
    printf("Employee No");
scanf("%d",&employeeNo);

    if(employeeNo==-999)
    {
break;
    }

    printf("Basic Salary");
scanf("%f",&basicSalary);
if(basicSalary>=5000)
    {
        count++;
    }
    }
```

```c
    printf("\nNumber of employees with basic salary >= 5000 %d\n",count);

    return 0;
}

//Q-5 int
main()
{
    int employeeNumber,hoursWorked;
    int overtimePayment,overtimeExceeding4000=0;
    int totalEmployees=0,employeesWithOvertime=0;
```

```c
    const int normalOvertimeRate=150;
const int excessOvertimeRate=200;


    printf("Enter employee number (-999
to end)");
scanf("%d",&employeeNumber);


    while (employeeNumber!=-999)
    {
        printf("Enter hours worked by employee
%d",employeeNumber);
        scanf("%d",&hoursWorked);
totalEmployees++;


        if (hoursWorked>40)
        {
            employeesWithOvertime++;
```

```
        int overtimeHours=hoursWorked-40;

overtimePayment=(normalOvertimeRate*(40o
vertimeHours))+(excessOvertimeRate*overtim
eHours);


        if (overtimePayment>4000)
        {
            overtimeExceeding4000++;
        }
    }
else
    {

    overtimePayment = 0;

    }
```

```c
        printf("Employee Number %d\n",
employeeNumber);

        printf("Overtime Payment %d\n",
overtimePayment);


        printf("\nEnter employee number (-999
to end)");
scanf("%d",&employeeNumber);
    }


    float
percentageExceeding4000=(float)overtimeExce
eding4000/employeesWithOvertime*100;

    printf("\nPercentage of employees with
overtime payment exceeding Rs.4000
%.2f%%\n",percentageExceeding4000);
```

```c
    return 0;
}
```

LAB 06

```c
#include <stdio.h>
#include <stdlib.h>
//Q-1 int
main() {
    int arr[10], i, sum = 0;
    float avg;

    // input values to the array     for (i = 0;
i < 10; i++) {        printf("Enter value for
index %d: ", i);        scanf("%d", &arr[i]);
    }
```

```c
    //Minimum value
int min_val = arr[0];
for (i = 1; i < 10; i++) {
if (arr[i] < min_val) {
min_val = arr[i];
        }
    }
    printf("Minimum value in the array: %d\n", min_val);

    //Maximum value
int max_val = arr[0];
for (i = 1; i < 10; i++) {
if (arr[i] > max_val) {
max_val = arr[i];
```

```c
    }
  }
  printf("Maximum value in the array: %d\n", max_val);


  //Average value
for (i = 0; i < 10; i++) {
sum += arr[i];

  }
  avg = (float)sum / 10;
  printf("Average value of the array: %.2f\n", avg);


  //Reverse the order of values
printf("Reverse order of values in the array:
```

```c
");    for (i = 9; i >= 0; i--
) {        printf("%d ",
arr[i]);
    }

    return 0;
}


//Q-2 int
main() { int
size, i;

    //Size of arrays
printf("Enter size of arrays: ");
scanf("%d", &size);
```

```c
    //Declare two arrays with size given
int arr1[size], arr2[size], arr3[size];

    //Input values to the first array
printf("Enter values for first array:\n");
for (i = 0; i < size; i++) {       printf("Enter
value for index %d: ", i);        scanf("%d",
&arr1[i]);
    }

    //Input values to the second array
printf("Enter values for second array:\n");
for (i = 0; i < size; i++) {       printf("Enter
value for index %d: ", i);        scanf("%d",
&arr2[i]);
    }
```

```c
    //Scalar sum
    int scalar_sum = 0;
    for (i = 0; i < size; i++) {
scalar_sum += arr1[i] + arr2[i];
    }
    printf("Scalar sum of arrays: %d\n", scalar_sum);


    //Vector sum and store in third array
printf("Vector sum of arrays: ");
    for (i = 0; i < size; i++) {
        arr3[i] = arr1[i] + arr2[i];
printf("%d ", arr3[i]);
    }

    return 0;
}
```

LAB 07

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int matrix1[3][3], matrix2[3][3], matrix_sum[3][3];
    int i, j;

    //Input values to the first matrix
printf("Enter values for first matrix:\n");
for (i = 0; i < 3; i++) {       for (j = 0; j < 3; j++) {
printf("Enter value for row %d, column
```

```c
%d: ", i+1, j+1);
scanf("%d", &matrix1[i][j]);
    }
  }


  //Input values to the second matrix
printf("Enter values for second matrix:\n");
for (i = 0; i < 3; i++) {

    for (j = 0; j < 3; j++) {          printf("Enter
value for row %d, column
%d: ", i+1, j+1);
scanf("%d", &matrix2[i][j]);
    }
  }
```

```c
    //Find matrix sum and store in third
matrix    for (i = 0; i < 3; i++) {        for (j = 0; j
< 3; j++) {          matrix_sum[i][j] =
matrix1[i][j] + matrix2[i][j];

        }

    }


    //Display matrix sum
printf("Matrix sum:\n");    for (i = 0; i
< 3; i++) {        for (j = 0; j < 3; j++) {
printf("%d ", matrix_sum[i][j]);

        }

        printf("\n");

    }


    return 0;

}
```