

Practical 05

01)

While Loop

```
#include <stdio.h>

int main(void) {
    int i = 0;

    while (i <= 100) {
        printf("%d\n", i);
        i++;
    }
    return 0;
}
```

Do While Loop

```
#include <stdio.h>

int main(void) {
    int x=0;

    do
    {
        printf("%d ",x);
        x++;
    }while(x<=100);
}
```

For Loop

```
#include <stdio.h>

int main(void) {
    int x;
    for (x=0;x<=100;x++)
    {
        printf("%d ",x);

    }
}
```

02)

```
#include <stdio.h>

int main(void) {
    int i = 1, m, tot = 0;
    float avg;
    while (i <= 10) {
        printf("Marks Of The Subject %d - ", i);
        scanf("%d", &m);
        tot = tot + m;
        i++;
    }
    avg = tot / 10;
    printf("\nTotal Is %d", tot);
    printf("\nAverage Is %f\n", avg);
}
```

```
if (avg >= 50) {  
    printf("Pass");  
} else {  
    printf("Fail");  
}  
return 0;  
}
```

03)

```
#include<stdio.h>  
int main()  
{  
    int a,b,fac=1;  
    printf("Enter A Positive Integer - ");  
    scanf("%d",&a);  
    if(a==0)  
    {  
        printf("\n0!=1\n");  
    }  
    else if(a>0)  
    {  
        b=a;  
        while(b>=2)  
        {  
            fac=fac*b;  
            b--;  
        }  
    }  
}
```

```
        printf("\n%d!=%d\n",a,fac);
    }
    else {printf("\nYou Have Entered A Negative Integer\n");}
}
```

04)

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

```
int main()
```

```
{
```

```
    int a, b = 0, c;
```

```
    printf("Enter a Number - ");
```

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

```
    c = a;
```

```
    while (a != 0) {
```

```
        b = b + a % 10;
```

```
        a = a / 10;
```

```
    }
```

```
    printf("\nThe Sum Of The Digits Of The Number %d is %d\n", c, b);
```

```
}
```

05)

```
#include <stdio.h>

int main()

{

int a,b;

printf("Enter a Number - ");

scanf("%d",&a);

do{

if(a/10==0){printf("%d",a%10);break;}

else {printf("%d",a%10);a=a/10;}}

while(a%10>=0);

return 0;

}
```

06)

```
#include <stdio.h>

#include <stdlib.h>

int main() {

int a, b, d, e = 1;

double c = 1.00;
```

```
printf("Enter The Base - ");

scanf("%d", &a);

printf("Enter The Exponent - ");

scanf("%d", &b);

d = b;

if (d > 0) {

    while (d >= 1) {

        e = e * a;

        d--;

    }

    printf("%d To Power Of %d Is Equals To %d", a, b, e);

} else if (d < 0) {

    while (abs(d) >= 1) {

        c = c / (double)a;

        d++;

    }

    printf("%d To Power Of %d Is Equals To %f", a, b, c);

} else {

    printf("%d To Power Of 0 Is Equals To 1", a);

}}
```

07)

```
#include <stdio.h>

int main() {

    int a = 1,b=1,c=1,d;

    printf("This Is The Fibonnaci Sequence Upto 10 Numbers\n0\n1\n1\n");

    while(a<=7){d=b+c;b=c;c=d;a++;printf("%d\n",d);}

}
```

08)

```
int main()

{

int a, b = 0, c = 1, d=0,e=0,f,g,h;

printf("Enter A Number - ");

scanf("%d", &a);

f=a;g=a;

if (a == 0) {b = 0;}

else {while (f / 10 > 0) {b++;f = f / 10;}}

h=b+1;

while (g > 0) {d=g%10;while(h>=1){c=d*c;h--;}g = g / 10;e=e+c;h=b+1;c=1;}

if(e==a){printf("%d Is An Armstrong Number",a);}
```

```
else {printf("%d Is Not An Armstrong Number",a);}

}
```

09)

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

```
int main()
```

```
{
```

```
char a;
```

```
printf("Enter A Capital Letter - ");
```

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

```
if(a!='A' && a!='B' && a!='C' && a!='D' && a!='E' && a!='F' && a!='G' &&
```

```
a!='H' && a!='I' && a!='J' && a!='K' && a!='L' && a!='M' && a!='N' && a!='O'
```

```
&& a!='P' && a!='Q' && a!='R' && a!='S' && a!='T' && a!='U' && a!='V' &&
```

```
a!='W' && a!='X' && a!='Y' && a!='Z'){printf("You Should Enter A Capital
```

```
Letter");}
```

```
else {printf("The ASCII Code Of %c Is ",a);
```

```
while(a=='A'){printf("065");break;}
```

```
while(a=='B'){printf("066");break;}
```

```
while(a=='C'){printf("067");break;}
```

```
while(a=='D'){printf("068");break;}
```



```
while(a=='E'){printf("069");break;}
while(a=='F'){printf("070");break;}
while(a=='G'){printf("071");break;}
while(a=='H'){printf("072");break;}
while(a=='I'){printf("073");break;}
while(a=='J'){printf("074");break;}
while(a=='K'){printf("075");break;}
while(a=='L'){printf("076");break;}
while(a=='M'){printf("077");break;}
while(a=='N'){printf("078");break;}
while(a=='O'){printf("079");break;}
while(a=='P'){printf("080");break;}
while(a=='Q'){printf("081");break;}
while(a=='R'){printf("082");break;}
while(a=='S'){printf("083");break;}
while(a=='T'){printf("084");break;}
while(a=='U'){printf("085");break;}
while(a=='V'){printf("086");break;}
while(a=='W'){printf("087");break;}
while(a=='X'){printf("088");break;}
```

```
while(a=='Y'){printf("089");break;}
```

```
while(a=='Z'){printf("090");break;}
```

```
}
```

```
}
```

10)

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

```
int main() {
```

```
    int i = 1;
```

```
    while (i <= 5) {
```

```
        int j = 1;
```

```
        while (j <= i) {
```

```
            printf("*");
```

```
            j++;
```

```
        }
```

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

```
        i++;
```

```
    }
```

```
}
```

11)

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

```
int main() {
```

```
    int a, b = 1, c = 0, d = -1;
```

```
    printf("Enter A Number - ");
```

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

```
    if (a == 0) {
```

```
        printf("0 Is Neither A Prime Number Nor A Composite Number");
```

```
    } else if (a > 0) {
```

```
        while (b <= a) {
```

```
            if (a % b == 0) {
```

```
                c++;
```

```
            }
```

```
            b++;
```

```
        }
```

```
        if (a % 1 == 0 && a % a == 0 && c == 2) {
```

```
            printf("%d Is A Prime Number", a);
```

```
        } else {
```

```
            printf("%d Is A Composite Number", a);
```

```
        }
```

```

} else {

while (d >= a) {

    if (a % d == 0) {

        c++;

    }

    d--;

}

if (a % 1 == 0 && a % a == 0 && c == 2) {

    printf("%d Is A Prime Number", a);

} else {

    printf("%d Is A Composite Number", a);

}

}

}

```

12)

```

#include <stdio.h>

#include <stdlib.h>

int main() {

    int a, b = 1, c = -1;

```

```

printf("Enter A Number - ");

scanf("%d", &a);

if(a>0){

printf("Factors Of %d\n", a);

while (b <= a) {if (a % b == 0) {printf("%d\n", b);}b++;}

while (c >= -a) {if (a % c == 0) {printf("%d\n", c);}c--;}}

else if(a<0){

printf("Factors Of %d\n", a);

while (b <= -a) {if (a % b == 0) {printf("%d\n", b);}b++;}

while (c >= a) {if (a % c == 0) {printf("%d\n", c);}c--;}}

else {printf("O Has No Factors\n");}

}

```

13)

```

#include <stdio.h>

int main() {

int a = 0, b = -1,c=0;

while (a < b || a > b) {

printf("Enter A Number - ");

scanf("%d", &a);

```

```
    c=c+a;

}

printf("The Sum Of The All User Inputs Is %d",c+1);

}
```

14)

```
#include <stdio.h>
int main(void)

{

    int i,arr[10];

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

    {

        printf("Enter A Value To The Element %d - ",i+1);

        scanf("%d",&arr[i]);

    }

    printf("\n");

    printf("The Array Is - ");

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

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

}
```

15)

```
#include <stdio.h>

int main(void)

{

    int i, arr[10],ec=0;

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

    {

        printf("Enter A Value To The Element %d - ", i + 1);

        scanf("%d", &arr[i]);

    }

    printf("\n");

    printf("The Array Is - ");

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

    {

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

        if(arr[i]%2==0){ec++;}

    }

    printf("\nThere Are %d Even Numbers In The Array\n",ec);

}
```

Section B

01)

```
#include <stdio.h>

int main() {

    int a = 1,b,c=0,d=0,e=0;

    while (a <= 10) {

        printf("Enter A Number %d - ",a);

        scanf("%d", &b);

        if(b>0){c++;}

        else if(b<0){d++;}

        else{e++;}

        a++;

    }

    printf("\nThere Are %d Positive Numbers\n",c);

    printf("There Are %d Negative Numbers\n",d);

    printf("There Are %d Zeroes\n",e);

}
```


02)

```
#include <stdio.h>

int main() {

    int a = 1, b, c = 0, d = 100, e = 0;

    float f;

    while (a <= 10) {

        printf("Enter Marks Of Student %d - ", a);

        scanf("%d", &b);

        e = e + b;

        if (b > c) {c = b;}

        if (b < d) {d = b;}

        a++;

    }

    f = (float)e / 10;

    printf("\nThe Maximum Is %d\n", c);

    printf("\nThe Minimum Is %d\n", d);

    printf("\nThe Average Is %f\n", f);

}
```

03)

```
#include <stdio.h>

int main() {

    int a = 1, b, c = 0, d = 0;

    float e;

    while (a <= 10) {

        printf("Enter Price Of Item %d - ", a);

        scanf("%d", &b);

        d = d + b;

        if (b > 200) {c++;}

        a++;}

    e = (float)d / 10;

    printf("\nThere Are %d Items Which Has A Price Greater Than 200\n", c);

    printf("\nThe Average Is %f\n", e);

}
```

04)

```
#include <stdio.h>

int main()

{
```

```
int a =1, b, c=1,d=0,e=0,f;

printf("To End The Program Please Enter The Employee Number As -999\n");

while(c==1)

{

printf("\nEnter Employee Number - ");

scanf("%d", &a);

if (a != -999)

{

printf("Enter The Basic Salary - ");

scanf("%d", &b);

c=1;

if(b<0){printf("\nBasic Salary Cannot Be Negative\n");}

else {printf("\nEmployee Number - %d\n",a);printf("Basic Salary - Rs.%d\n",b);}

if(b>=5000){d++;} }

if(a==-999)

{c=0;printf("\nThere Are %d Employees Whose Basic Salary Is >=5000\nThe

Program Ends Here.\n",d);

}

}

}
```

05)

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

```
int main() {
```

```
int a =1, b, c=1,d,e=0,f=0,g;
```

```
char h='%';
```

```
printf("To End The Program Please Enter The Employee Number As -999\n");
```

```
while(c==1){
```

```
printf("\nEnter Employee Number - ");
```

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

```
if (a != -999) {
```

```
printf("Enter The Number Of Hours Worked - ");
```

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

```
c=1;
```

```
f++;
```

```
if(b<0){printf("\nThe Number Of Hours Cannot Be Negative\n");}
```

```
else {if(b>40){d=b*200-40*50;}
```

```
else{d=b*150;}
```

```
printf("\nEmployee Number - %d\n",a);
```

```
printf("Overtime Payment - Rs.%d\n",d);}
```

```
if(d>4000){e++;}
```

```
}
```

```
if(a==-999){c=0;g=(e*100)/f;printf("\nThere Are %d %c Employees Whose  
Overtime Payment Exceeds Rs.4000. \nThe Program Ends Here.",g,h);}
```

```
}
```

```
}
```

```
}
```