

PROGRAM 1

```
#include <stdio.h>

int main()
{
    float principal_amt, rate, time, si;

    printf("Enter principal amount: ");
    scanf("%f", &principal_amt);

    printf("Enter rate: ");
    scanf("%f", &rate);

    printf("Enter time in years: ");
    scanf("%f", &time);

    si = principal_amt * rate * time * 0.01;

    printf("Simple interest is: %f\n", si);

    return 0;
}
```

```
Last login: Sun Sep  7 21:24:19 on tty002
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
Enter principal amount: 5000
Enter rate: 10
Enter time in years: 10
Simple interest is: 5000.00

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 2

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

```
int main()
{
    int iop,iocs,maths,eee,eng,sum;
    printf("Enter marks in IOP ");
    scanf("%d",&iop);

    printf("Enter marks in IOCS ");
    scanf("%d",&iocs);

    printf("Enter marks in Maths ");
    scanf("%d",&maths);

    printf("Enter marks in EEE ");
    scanf("%d",&eee);

    printf("Enter marks in Eng ");
    scanf("%d",&eng);

    sum = iocs + iop + maths + eee + eng;

    printf("\nTotal marks are %d", sum);
    printf("\n Percentage %f", sum*0.2);
}
```

```
Last login: Sun Sep  7 21:24:57 on ttys002
/Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;
Enter marks in IOP 89
Enter marks in IOCS 78
Enter marks in Maths 90
Enter marks in EEE 76
Enter marks in Eng 88

Total marks are 421
Percentage 84.200000
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 3

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

```
int main()
{
    int base_sal, allowances, bonus, g_sal;

    printf("Enter base salary: ");
    scanf("%d",&base_sal);

    printf("Enter allowances: ");
    scanf("%d",&allowances);

    printf("Enter bonus: ");
    scanf("%d",&bonus);
    g_sal = base_sal+allowances+bonus;
    printf("\n Gross Salary = %d", g_sal);
}
```

```
Last login: Sun Sep  7 21:50:19 on ttys005
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;
Enter base salary: 6000
Enter allowances: 3000
Enter bonus: 1000

Gross Salary = 10000
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 4

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

```
int main()
{
    float deg_f, deg_c;
    printf("Enter temperature in fahrenheit: ");
    scanf("%f",&deg_f);

    deg_c = 0.556*(deg_f-32);
    printf("\n Temperature in celcius is: %f",deg_c);
}
```



The screenshot shows a macOS Terminal window with the title bar 'Terminal' and menu items 'Shell', 'Edit', 'View', 'Window', and 'Help'. The window is titled 'avantika - out - 214x67'. The terminal output shows the program's execution: the prompt 'avantika@Shubhs-MacBook-Pro ~ %' is followed by the command to run the program. The program prompts 'Enter temperature in fahrenheit: 40', and the output is 'Temperature in celcius is: 4.448000'. The terminal also shows system messages about saving session and history, and a final '[Process completed]' message.

```
avantika@Shubhs-MacBook-Pro ~ % ./C\ Programing\IOP\ Lab\out ; exit;
Enter temperature in fahrenheit: 40

Temperature in celcius is: 4.448000
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 5

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

```
int main()
{
    int a, b, c;
    printf("Enter a and b ");
    scanf("%d%d",&a,&b);
    c=a;
    a=b;
    b=c;
    printf("Swapped values are: =%d %d",a,b);
}
```

```
Last login: Mon Sep  8 13:38:57 on ttys014
/Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
avantika@Shubha-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
Enter a and b 4
8
Swapped values are: =8 4
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 6

```
#include <stdio.h>
int main()
{
    int a, b;
```

```
    printf("Enter two numbers: ");
    scanf("%d %d", &a, &b);
```

```
    printf("\nBefore swapping: a = %d, b = %d", a, b);
```

```
    a = a + b;
    b = a - b;
    a = a - b;
```

```
    printf("\nAfter swapping: a = %d, b = %d", a, b);
}
```

```
Last login: Mon Sep  8 18:26:50 on ttys006
/Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
Enter two numbers: 5
18

Before swapping: a = 5, b = 18
After swapping: a = 18, b = 5
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.
Deleting expired sessions...      4 completed.

[Process completed]
```

PROGRAM 7

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

```
int main()
{
    float a, b, c, s, area;
```

```
    printf("Enter side a: ");
    scanf("%f", &a);
```

```
    printf("Enter side b: ");
    scanf("%f", &b);
```

```
    printf("Enter side c: ");
    scanf("%f", &c);
```

```
    s = (a + b + c) / 2;
    area = sqrt(s * (s - a) * (s - b) * (s - c));
```

```
    printf("Area of the triangle = %f\n", area);
```

```
}
```

```
Last login: Mon Sep  8 13:44:09 on ttys016
/Users/avantika/Documents/C\ Programming\IOP\ Lab/out ; exit;
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programming\IOP\ Lab/out ; exit;
Enter side a: 5
Enter side b: 12
Enter side c: 13
Area of the triangle = 30.000000

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 8

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

```
int main()
```

```
{
```

```
    int seconds = 31558150;
```

```
    int days, hrs, mins;
```

```
    days = seconds / (24 * 3600);
```

```
    seconds = seconds % (24 * 3600);
```

```
    hrs = seconds / 3600;
```

```
    seconds = seconds % 3600;
```

```
    mins = seconds / 60;
```

```
    seconds = seconds % 60;
```

```
    printf("\nEquivalent time: %d days, %d hours, %d minutes, %d  
seconds", days, hrs, mins, seconds);
```

```
}
```

```
Last login: Mon Sep  8 14:32:13 on ttys023
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
Equivalent time: 365 days, 6 hours, 9 minutes, 10 seconds

Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```


PROGRAM 9

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

```
int main()
```

```
{
```

```
    int hrs, mins, seconds, t_seconds;
```

```
    printf("Enter hours: ");  
    scanf("%d",&hrs);
```

```
    printf("Enter minutes: ");  
    scanf("%d",&mins);
```

```
    printf("Enter second: ");  
    scanf("%d",&seconds);
```

```
    t_seconds = hrs*3600 + mins*60 + seconds;  
    printf("\n Equivalent time in seconds is: %d",t_seconds);
```

```
}
```

```
Last login: Mon Sep  8 17:07:12 on ttys001  
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;  
Enter hours: 3  
Enter minutes: 5  
Enter second: 12  
  
Equivalent time in seconds is: 11112  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.  
[Process completed]
```

PROGRAM 10

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

```
int main()
```

```
{  
    float maths, chem, phy, e_exam, cm;
```

```
    printf("Marks in Maths out of 200: ");  
    scanf("%f",&maths);
```

```
    printf("Marks in Chemistry out of 200: ");  
    scanf("%f",&chem);
```

```
    printf("Marks in Physics out of 200: ");  
    scanf("%f",&phy);
```

```
    printf("Marks in entrance exam out of 100: ");  
    scanf("%f",&e_exam);
```

```
    cm = (maths / 2) + (chem / 2) + (phy / 2) + e_exam;  
    printf("\n Cut off marks = %f",cm);
```

```
}
```

```
Last login: Mon Sep  8 17:30:12 on ttys003  
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;  
Marks in Maths out of 200: 150  
Marks in Chemistry out of 200: 180  
Marks in Physics out of 200: 179  
Marks in entrance exam out of 100: 87  
  
Cut off marks = 341.500000  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.  
  
[Process completed]
```

PROGRAM 11

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

```
int main()
```

```
{
```

```
    int seconds, hrs, mins;
```

```
    printf("Enter total seconds: ");  
    scanf("%d", &seconds);
```

```
    hrs = seconds / 3600;  
    seconds = seconds % 3600;
```

```
    mins = seconds / 60;  
    seconds = seconds % 60;
```

```
    printf("\n Hours: %d, Minutes: %d, Seconds: %d", hrs, mins,  
seconds);
```

```
}
```

```
Last login: Mon Sep  8 14:31:42 on ttys023  
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;  
Enter total seconds: 36500
```

```
Hours: 10, Minutes: 8, Seconds: 20  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.
```

```
[Process completed]
```

PROGRAM 12

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

```
int main()  
{  
    char c;
```

```
    printf("Enter a character: ");  
    scanf("%c", &c);
```

```
    printf("\nThe ASCII value of the given character is %d",c);  
}
```

```
Last login: Mon Sep  8 18:18:55 on ttys005  
/Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;  
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programming/IOP\ Lab/out ; exit;  
Enter a character: S
```

```
The ASCII value of the given character is 83  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.
```

```
[Process completed]
```

PROGRAM 13

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

```
int main()
{
    int a;

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

    if (a%2 == 0)
        printf("The number is even");
    if (a%2 != 0)
        printf("The number is odd");

}
```

```
Last login: Mon Sep  8 18:19:06 on ttys005
/Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;
Enter a number: 86
The number is even
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.

[Process completed]
```

PROGRAM 14

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

```
int main()  
{  
    char ch;
```

```
    printf("Enter a character: ");  
    scanf("%c", &ch);
```

```
    if (ch >= 'A' && ch <= 'Z')  
    {  
        printf("Capital Letter");  
    }  
    else if (ch >= 'a' && ch <= 'z')  
    {  
        printf("Small Letter");  
    }  
    else if (ch >= '0' && ch <= '9')  
    {  
        printf("Digit");  
    }  
    else  
    {  
        printf("Special Symbol");  
    }  
}
```

```
Last login: Tue Sep  9 18:51:14 on ttys008  
avantika@Shubhs-MacBook-Pro ~ % /Users/avantika/Documents/C\ Programing/IOP\ Lab/out ; exit;  
Enter a character: ^  
Special Symbol  
Saving session...  
...copying shared history...  
...saving history...truncating history files...  
...completed.  
[Process completed]
```

