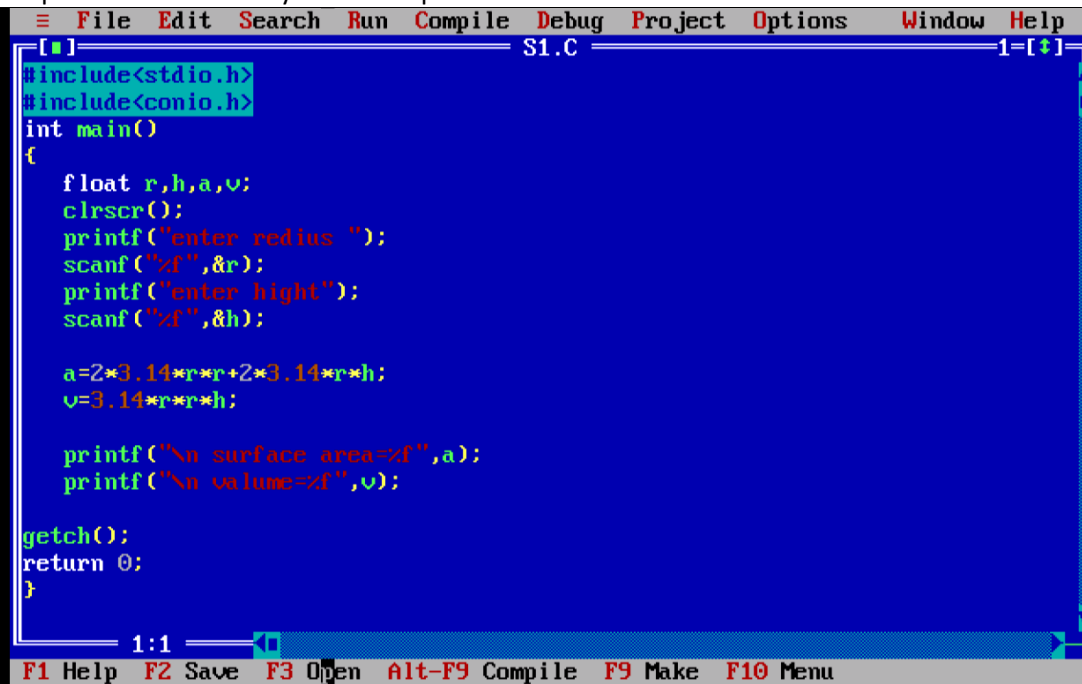


Assiengement 2 c programing (LAB BOOK)

1 . Accept dimensions of a cylinder and print the surface area and volume.



```
#include<stdio.h>
#include<conio.h>
int main()
{
    float r,h,a,v;
    clrscr();
    printf("enter radius ");
    scanf("%f",&r);
    printf("enter hight");
    scanf("%f",&h);

    a=2*3.14*r*r+2*3.14*r*h;
    v=3.14*r*r*h;

    printf("\n surface area=%f",a);
    printf("\n volume=%f",v);

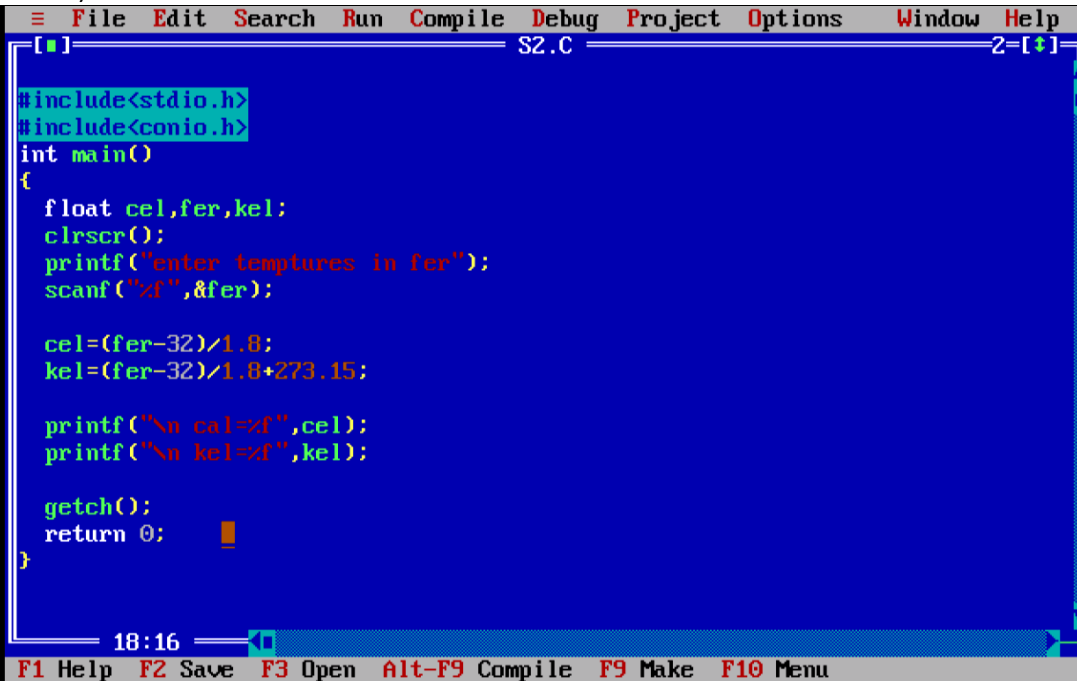
    getch();
    return 0;
}
```

enter radius 5
enter hight 3

surface area=251.199997
volume=235.500000_

2. Accept temperatures in Fahrenheit (F) and print it in Celsius(C) and Kelvin (K) (Hint: $C = \frac{5}{9}(F - 32)$),

K C+273.15)



The screenshot shows the Turbo C++ IDE with a menu bar (File, Edit, Search, Run, Compile, Debug, Project, Options, Window, Help) and a toolbar. The main window displays a C program named S2.C. The code defines a function main() that takes a float variable 'fer' as input, calculates Celsius ('cel') and Kelvin ('kel') values, and prints them. The program is running, and the output window shows the results for an input of 45.

```
#include<stdio.h>
#include<conio.h>
int main()
{
    float cel,fer,kel;
    clrscr();
    printf("enter temptures in fer");
    scanf("%f",&fer);

    cel=(fer-32)/1.8;
    kel=(fer-32)/1.8+273.15;

    printf("\n cel=%f",cel);
    printf("\n kel=%f",kel);

    getch();
    return 0;
}
```

18:16

F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

enter temptures in fer 45

cel=7.222222
kel=280.372223

3. Accept initial velocity (u), acceleration (a) and time (t). Print the final velocity (v) and the distance travelled (s) (Hint: $v=u+at$, $su+at^2$)

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int o,t,a,u;
    float v,s;
    clrscr();
    printf("enter velocity");
    scanf("%d",&o);
    printf("enter acceleration");
    scanf("%d",&a);
    printf("enter time");
    scanf("%d",&t);

    v=u+(a*t);
    s=u+(a*t*t);

    printf("\n velocity=%f",v);
    printf("\n distance=%f",s);
    getch();
    return 0;
}
```

5:8

F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu

enter velocity 60
enter acceleration 5
enter time 4

velocity=20358.000000
distance=1154.000000_

4. Accept two numbers and print arithmetic and harmonic mean of the two numbers
(Hint: AM= $(a+b)/2$)

```
#include<stdio.h>
#include<conio.h>
int main()
{
    float am,hm,a,b;
    clrscr();
    printf("enter two number");
    scanf("%f%f",&a,&b);

    am=(a+b)/2;
    hm=(a*b/(a+b));

    printf("\n arithmetic=%f",am);
    printf("\n harmonic=%f",hm);

    getch();
    return 0;
}
```

enter two number 55 22

arithmetic=38.500000
harmonic=15.714286_

5. Accept three dimensions length (l), breadth(b) and height(h) of a cuboid and print surface volume (Hint: surface area- $2(lb+lh+bh)$, volume = lbh) area and

```
File Edit Search Run Compile Debug Project Options Window Help
S5.C 5=
#include<stdio.h>
#include<conio.h>
int main()
{
    int l,b,h,a,v;
    clrscr();
    printf("enter length");
    scanf("%d",&l);
    printf("enter breadth");
    scanf("%d",&b);
    printf("enter height");
    scanf("%d",&h);

    a=2*(l*b+l*h+b*h);
    v=l*b*h;

    printf("\n surface area=%d",a);
    printf("\n volume=%d",v);

    getch();
    return 0;
}
1:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
enter length 5
enter breadth 4
enter height 3

surface area=94
volume=60_
```

6. Accept a character from the keyboard and display its previous and next character in order. Ex. If character entered is 'd', display "The previous character is c", "The next character is e".

The screenshot shows the Turbo C++ IDE with a source code window and a console window. The source code window displays the following C program:

```
#include<stdio.h>
#include<conio.h>
int main()
{
    char ch;
    clrscr();
    printf("enter character");
    scanf("%c",&ch);
    printf("\n enter%c",ch);
    printf("\n next character %c",ch+1);
    printf("\n prevoius character %c",ch+1);

    getch();
    return 0;
}
```

The console window shows the output of the program:

```
enter characterb
enterb
next character a
prevoius character c
```

7. Accept a character from the user and display its ASCII value.

The image shows a screenshot of a Turbo C++ IDE. The main window displays a C program named S7.C. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
int main()
{
    char ch;
    clrscr();
    printf("enter character");
    scanf("%c",&ch);

    printf("\n ascii values=%d",ch);

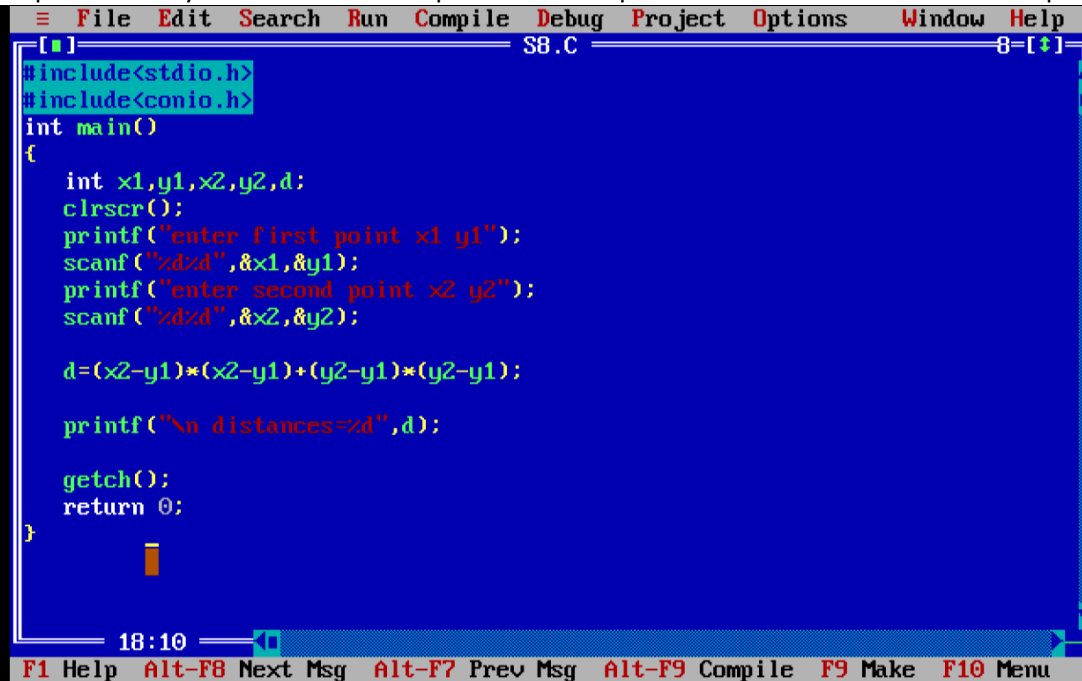
    getch();
    return 0;
}
```

The IDE's status bar at the bottom shows the time as 15:13 and lists function key shortcuts: F1 Help, F2 Save, F3 Open, Alt-F9 Compile, F9 Make, and F10 Menu. Below the IDE window, the program's output is visible on a black background, showing the prompt "enter character" followed by the user input "a", and then the output "ascii values=97".

```
enter charactera

ascii values=97
```

8. Accept the x and y coordinates of two points and compute the distance between the two points.



The screenshot shows the Turbo C++ IDE with a blue background. The menu bar at the top includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The title bar indicates the file is 'S8.C'. The code in the editor is as follows:

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int x1,y1,x2,y2,d;
    clrscr();
    printf("enter first point x1 y1");
    scanf("%d%d",&x1,&y1);
    printf("enter second point x2 y2");
    scanf("%d%d",&x2,&y2);

    d=(x2-y1)*(x2-y1)+(y2-y1)*(y2-y1);

    printf("\n distances=%d",d);

    getch();
    return 0;
}
```

The status bar at the bottom of the IDE shows the time '18:10' and various function key shortcuts: F1 Help, Alt-F8 Next Msg, Alt-F7 Prev Msg, Alt-F9 Compile, F9 Make, and F10 Menu.

```
enter first point x1 y1 45 32
enter second point x2 y2 23 43

distances=202_
```

9. Accept two integers from the user and interchange them. Display the interchanged numbers.


```
File Edit Search Run Compile Debug Project Options Window Help
S9.C
#include<stdio.h>
#include<conio.h>
int main()
{
    int a,b;
    printf("enter two number");
    scanf("%d%d",&a,&b);

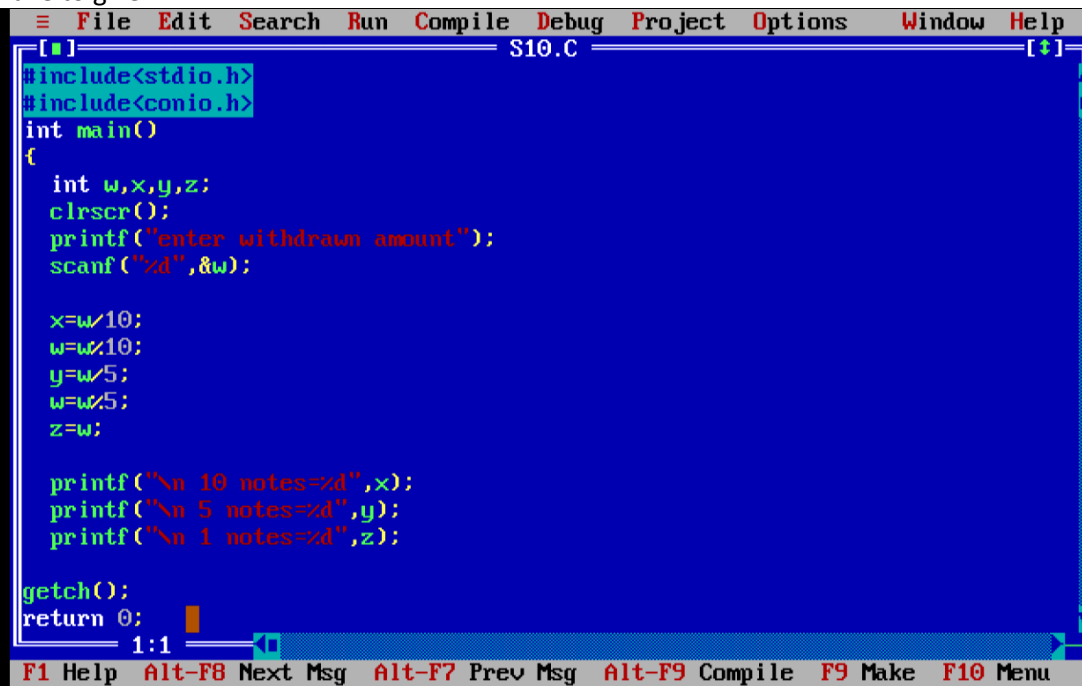
    a=a+b;
    b=a-b;
    a=a-b;

    printf("\n first number=%d",a);
    printf("\n second number=%d",b);

    getch();
    return 0;
}
1:1
F1 Help Alt-F8 Next Msg Alt-F7 Prev Msg Alt-F9 Compile F9 Make F10 Menu
enter two number 34 56

first number=56
second number=34_
```

10. A cashier has currency notes of denomination 1. 5 and 10. Accept the amount to be withdrawn from the user and print the total number of currency notes of each denomination the cashier will have to give..



```
#include<stdio.h>
#include<conio.h>
int main()
{
    int w,x,y,z;
    clrscr();
    printf("enter withdrawn amount");
    scanf("%d",&w);

    x=w/10;
    w=w%10;
    y=w/5;
    w=w%5;
    z=w;

    printf("\n 10 notes=%d",x);
    printf("\n 5 notes=%d",y);
    printf("\n 1 notes=%d",z);

    getch();
    return 0;
}
```

The screenshot shows a Turbo C++ IDE window titled 'S10.C'. The code is written in C and calculates the number of 10, 5, and 1 rupee notes for a given withdrawal amount. The program uses integer division and modulus to calculate the number of 10 and 5 rupee notes, and then the remaining amount is the number of 1 rupee notes. The output shows 10 notes=500, 5 notes=0, and 1 notes=0.

enter withdrawn amount 5000

```
10 notes=500
5 notes=0
1 notes=0_
```