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COMMON PROGRAMMING ERRORS & SOLUTIONS

After clicking on "Make All" look at the O/P window if it shows you "Process Exit Code: 0", then your program is error-free else read the error message and do the necessary corrections. If you are not sure which line contains an error then click on the error message - your cursor will automatically move over to that line and then you can make the necessary changes in order to eliminate the error. After all the errors are corrected, one can directly save the file by just clicking on "Make All". Some of the common errors are mentioned below:

1. Error in the header file i.e. #include<avr/io.h>

```
#inclde<avr/io.h>
#include"deTay.h
                                                    //This is the header for AVR Microcontroller.
//header file to generate time delay.
          int main(void)
                                                     // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
                 PORTC=0x00;
                  while(1)
                                                     //This is for the the infinity loop.
                  PORTC=0×F0;
delayms(1000);
PORTC=0×00;
delayms(1000);
                                                    //Turning ON the LED's
                                                     //Turning OFF the LED's
              ■ ₽ # → ¶
                                                                                                            signed-char -funsigned-bit
        cc c ###cu-atmega6555 -1. -ystabs -DF_CFU-16000000UL
c:13:2: error: invalid preprocessing directive #inclde
  ain.c:13:2: error: invaling prop.
n file included from main.c:14:
elay.h:49:79: warning: no newline at end of file
ain.c: In function main
ain.c:18: error: 'PORTC' undeclared (first use in this function)
ain.c:18: error: Feach undeclared identifier is reported only on
main c: In function 'mai
main.c:18: error: 'PORTC
main.c:18: error: (Each
        c:19: error: for each function it appears in.)
c:19: error: 'DDRC' undeclared (first use in this function)
make.exe: *** [main.o] Error 1
```

Solution:

For this kind of error messages check the spelling of the header file name, go to the current folder & check whether your header file is included in it or not - if it is not present, then copy it from the header folder & paste it inside your current folder.



2. Error due to makefile:

```
#include<avr/io.h>
#include"delay.h"
                                    //This is the header for AVR Microcontroller.
/header file to generate time delay.
       int main(void)
                                     // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
            PORTC=0x00;
            DDRC=0xF0;
            while(1)
                                     //This is for the the infinity loop.
             PORTC=0×F0;
                                    //Turning ON the LED's
             delayms(1000);
PORTC=0×00;
delayms(1000);
                                     //Turning OFF the LED's
      }
         ***********************
  <
  ⊞ ₽ # → ¶
make.exe: *** No rule to make target `all'.
  Process Exit Code: 2
Time Taken: 00:00
```

Solution:

For this kind of error messages, check the current folder and make sure that it contains the Makefile (a 18kb file), if not then copy it from any other program folder and paste it inside your current folder.

3. Error due to the included header file:

```
//This is the header for AVR Microcontroller.
//header file to generate time delay.
           #include<avr/io.h>
#include"delay.h"
             int main(void)
         □ {
                   PORTC=0×00;
DDRC=0×F0;
                                                        // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
                    while(1)
                                                       //This is for the the infinity loop.
                    PORTC=0×F0;
delayms(1000);
PORTC=0×00;
delayms(1000);
                                                       //Turning ON the LED's
                                                        //Turning OFF the LED's
           }
               Compiling C: main.c

avr-gcc -c -mmcu=atmega8535 -T -gstabs -DE CPU=16000000000 -0-

main.c:14:61: error: delay.h: No such file or directory

main.c:1 In function main:

main.c:24: warning: implicit declaration of function 'delayms

main.c:30:73: warning: no newline at end of file

make.exe: *** [main.o] Error 1
  > Process Exit Code: 2
> Time Taken: 00:02
```

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Solution:

For these kinds of error messages, check the current folder and make sure that it contains the other included header files like here delay.h, if not then copy the missing header files from any other program folder or the header folder and paste the same inside your current folder.

4. Error due to 0 (Zero Digit) & o (the letter "o"):

5. Error due to "x" & "*":

```
#include<avr/io.h>
#include"delay.h"

// header file to generate time delay.

// portC of the time delay.

// PortC data direction declaration as out put.

while(1)

// This is for the the infinity loop.

// DORTC=0*FO;

// Turning ON the LED's

| delayms(1000);

// PORTC=0x00;

// Gelayms(1000);

// Turning OFF the LED's

| delayms(1000);

// Turning OFF the LED's

| header file to generate time delay.

// Turning OFF the LED's

| header file to generate time delay.

// Turning OFF the LED's

| header file to generate time delay.

// Turning OFF the LED's

| header file to generate time delay.

// PortC initiallization as all bits low.

// PortC data direction declaration of the LED's

// Turning OFF the LED's

// Turni
```





```
⋘ Programmer's Notepad - [main.c]
  File Edit View Tools Window Help
  □ 🔒 🗎 🔓 🔼 🕽 😅 🖟 🖺 🖺 C/C++
                                                                                                                                                                    ✓ 
        main.c
               CODE1: Program to Blink all the LEDs connected in PORT C.
               *COPYRIGHT(c): Technophilia.
*AUTHOR:Technophilia
*COMPILER:winavr
              #include<avr/io.h>
#include"delay.h"
                                                               //This is the header for AVR Microcontroller.
/header file to generate time delay.
           int main(void)
□{
                       PORTC=0×00;
DDRC=0×F0;
                                                               // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
                        while(1)
                                                                  //This is for the the infinity loop.
                       while(1)
{
    PORTC=0xF0;
    delayms(1000);
    PORTc=0x00;
    delayms(1000);
}
                                                                    //Turning ON the LED's
            avr-gcc -c -mmcu=atmega8935 -I. -gstabs -DF_CPU=16000000UL -Os -funsigned-char -funsi
In file included from main.c:14:
delay.h:49:79: warning: no newline at end of file
main.c: In function 'main':
main.c: In function 'main':
main.c:25: error: 'PORTc' undeclared (first use in this function)
main.c:25: error: (Each undeclared identifier is reported only once
main.c:25: error: for each function it appears in.)
main.c:30:73: warning: no newline at end of file
make.exe: *** [main.o] Error 1
                Process Exit Code: 2
Time Taken: 00:01
```

7. Error due to ;:

```
#include<avr/io.h>
#include"delay.h"
                                            //This is the header for AVR Microcontroller. /header file to generate time delay.
   int main(void)
₽{
                                             /\!/ PortC initiallization as all bits low. /\!/ PortC data direction declaration as out put.
          PORTC=0x00;
         DDRC=0xF0;
                                             //This is for the the infinity loop.
          while(1)
           PORTC=0xF0;
delayms(1000)
                                             //Turning ON the LED's
         PORTC=0X00
           delayms(1000),
                                              //Turning OFF the LED
  }
Compiling C: main.c
avr-gcc -c -mmcu-atmega8535 -I. -gstabs -DF_CPU=16000000UL -Os -funsigned-char -fun
In file included from main.c:14:
delay.h:49:79: warning: no newline at end of file
main.c:In function 'main':
main.c:26: error: expected ';' before 'delayms'
 main.c:30:/3: warning: no newli
make.exe: *** [main.o] Error 1
   Process Exit Code: 2
   Time Taken: 00:00
```



8. Error due to improper calling of functions:

```
//This is the header for AVR Microcontroller.
/header file to generate time delay.
 #include<avr/io.h>
#include"delay.h"
  int main(void)
       PORTC=0x00;
                                     // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
       DDRC=0xF0;
                                     //This is for the the infinity loop.
       while(1)
         PORTC=0xF0;
                                     //Turning ON the LED's
         delayms(1000);
        delay(1000);
                                     //Turning OFF the LED's
 }
main.c: In function 'main':
main.c:26: warning: implicit declaration of function 'delay'
main.c:30:73: warning: no newline at end of file
Linking: main.elf
avr-gcc -mmcu=atmega8535 -I. -gstabs -DF_CPU=1600000UL -Os -funsigned-char -funsigned-main.c: In function 'main':
main.c:26: undefined reference to 'delay'
                                                                                                                      Look there is no
                                                                                                                     error written
   Process Exit Code: 2
                                                                                                                      over here but it
   Time Taken: 00:00
                                                                                                                      contains error
```

9. Error due to WHILE instead of while:

```
#include<avr/io.h>
#include"delay.h"
                                           /This is the header for AVR Microcontroller.
                                       //header file to generate time delay.
  int main(void)
₽{
        PORTC=0x00;
                                         // PortC initiallization as all bits low.
// PortC data direction declaration as out put.
        DDRC=0xF0:
        WHILE(1)
                                         //This is for the the infinity loop.
          PORTC=0xF0;
                                         //Turning ON the LED's
          delayms (1000);
          PORTC=0×00;
          delayms<mark>(1000);</mark>
                                         //Turning OFF the LED's
  }
 Compiling C: main.c
compiling C: main.c
avr-gcc -c -mmcu=atmega8535 -I. -gstabs -DF_CPU=16000000UL -Os -funsigned-char -fun
In file included from main.c:14:
delay.h:49:79: warning: no newline at end of file
main.c: In function 'main':
                                                                       ion 'WHILE'
 main.c:21:
main.c:22: error: expected ';' before '{' token
main.c:30:/3: warning: no newline at end of file
make.exe: *** [main.o] Error 1
   Process Exit Code: 2
  Time Taken: 00:01
```



10. Error due to the presence of extra characters ({ . , ; ' etc):

```
#include<avr/io.h>
#include"delay.h"

//This is the header for AVR M
//header file to generate time

int main(void)

PORTC=0x00; // PortC initiallizati declaration as out put.

while(1) //This is for a the infinity loop.

{
    PORTC=0xF0; // Turning ON the LED's
    delayms(1000); PORTC=0x00; delayms(1000); // Turning OFF the LED's
}

Output

avr-gcc -c -mmcu=atmega8535 -I. -gstabs -DF_CPU=16000000UL -Os -funsigned-char -funsigned-
In file included from main.c:14:
    delay.h:49:79: warning: no newline at end of file
    main.c:26:19: warning: character constant too long for its type
    main.c:26: error: expected ';' before 's'
    main.c:26: error: expected ';' before 's'
    main.c:20:73: warning: no newline at end of file
    make.exe: "" [main.o] Error 1

> Process Exit Code: 2

> Time Taken: 00:01
```

Notes:

- 1. Warnings can be neglected, i.e., if your program output contains some warnings then it will not create any problems in generating the <a href="hex-the-new-right-ne
- 2. Process Exit Code of individuals should be 0 in order to make the program error-free but the Time Taken may vary from computer to computer; it will not create any problems.
- 3. All other possible errors may be due to reasons like the use of instead of in case of switch case statements.
- 4. Errors can also occur due to unequal number of opening and closing brackets, {}.
- 5. There may also be L-Value errors, i.e., storing characters using an integer variable.



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