

```
work1.cpp > main()
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6      cout << "123456789012345678901234567890\n";
7      cout << "ID : 6406021420352\n";
8      cout << "Name : Pisanu Prasongsub\n";
9      cout << "Information Technology\n";
10     return (0);
11 }
```

PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i  
f (\$?) { g++ work1.cpp -o work1 } ; if (\$?) { .\work1 }  
123456789012345678901234567890  
ID : 6406021420352  
Name : Pisanu Prasongsub  
Information Technology  
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i  
f (\$?) { g++ work1.cpp -o work1 } ; if (\$?) { .\work1 }  
123456789012345678901234567890  
ID : 6406021420352  
Name : Pisanu Prasongsub  
Information Technology  
PS C:\Users\Hachimanz\Desktop\VSC++>

```
work2.cpp > main()
1  #include <iostream>
2  using namespace std;
3
4  int main()
5  {
6      cout << "\\A\' is Character.\n";
7      cout << "\\Microsoft VisualStudio 2010Professional\' is String.\n";
8      cout << "A = \101 = \x41 \n";
9      return (0);
10 }
```

PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i  
f (\$?) { g++ work2.cpp -o work2 } ; if (\$?) { .\work2 }  
'A' is Character.  
'Microsoft VisualStudio 2010Professional' is String.  
A = A = A  
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i  
f (\$?) { g++ work2.cpp -o work2 } ; if (\$?) { .\work2 }  
'A' is Character.  
'Microsoft VisualStudio 2010Professional' is String.  
A = A = A  
PS C:\Users\Hachimanz\Desktop\VSC++>

The screenshot shows the Visual Studio Code interface with the file `work3.cpp` open. The Explorer sidebar on the left lists several files under the `vsc++` folder, including `Lab1.cpp` through `Lab9.cpp` and their corresponding `.exe` files, as well as `work1.cpp` through `work9.cpp`. The main editor displays the following C++ code in `work3.cpp`:

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     cout << "bool \t= " << sizeof(bool) << " bytes." << endl;
6     cout << "char \t= " << sizeof(char) << " bytes." << endl;
7     cout << "short \t= " << sizeof(short) << " bytes." << endl;
8     cout << "int \t= " << sizeof(int) << " bytes." << endl;
9     cout << "long \t= " << sizeof(long) << " bytes." << endl;
10    cout << "float\t= " << sizeof(float) << " bytes." << endl;
11    cout << "double\t= " << sizeof(double) << " bytes." << endl;
12    cout << "long double\t= " << sizeof(long double) << " bytes." << endl;
13    return (0);
14 }
```

The bottom panel shows the TERMINAL output:

```
"Microsoft VisualStudio 2010Professional" is String.
A = A = A
PS C:\Users\Hachimanz\Desktop\VSC++> cd "C:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work3.cpp -o work3 } ; if ($?) { .\work3 }
bool      = 1 bytes.
char       = 1 bytes.
short      = 2 bytes.
int        = 4 bytes.
long       = 4 bytes.
float      = 4 bytes.
double     = 8 bytes.
long double = 16 bytes.
PS C:\Users\Hachimanz\Desktop\VSC++>
```

The status bar at the bottom indicates the cursor is at Line 14, Column 2, with 4 spaces, UTF-8 encoding, CRLF line endings, C++ language, and Win32 architecture.

The screenshot shows the Visual Studio Code interface with the file `work4.cpp` open. The Explorer sidebar on the left lists files under the `vsc++` folder, including `Lab1.cpp` through `Lab4.cpp` and their corresponding `.exe` files, as well as `tempCodeRunnerFile.cpp`, `work1.cpp` through `work8.cpp`, and `work3.exe`. The main editor displays the following C++ code in `work4.cpp`:

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     cout << "Minimum value of char : "<< CHAR_MIN << endl;
6     cout << "Maximum value of char : "<< CHAR_MAX << endl;
7     cout << "Minimum value of short : "<< SHRT_MIN << endl;
8     cout << "Maximum value of short : "<< SHRT_MAX << endl;
9     cout << "Minimum value of int : "<< INT_MIN << endl;
10    cout << "Maximum value of int : "<< INT_MAX << endl;
11    cout << "Minimum value of long : "<< LONG_MIN << endl;
12    cout << "Maximum value of long : "<< LONG_MAX << endl;
13    cout << "Maximum value of unsigned char : "<< UCHAR_MAX << endl;
14    cout << "Maximum value of unsigned short : "<< USHRT_MAX << endl;
15    cout << "Maximum value of unsigned int : "<< UINT_MAX << endl;
16    cout << "Maximum value of unsigned long : "<< ULONG_MAX << endl;
17    return (0);
18 }
```

The bottom panel shows the TERMINAL output:

```
Minimum value of char : -128
Maximum value of char : 127
Minimum value of short : -32768
Maximum value of short : 32767
Minimum value of int : -2147483648
Maximum value of int : 2147483647
Minimum value of long : -2147483648
Maximum value of long : 2147483647
Maximum value of unsigned char : 255
Maximum value of unsigned short : 65535
Maximum value of unsigned int : 4294967295
Maximum value of unsigned long : 4294967295
PS C:\Users\Hachimanz\Desktop\VSC++>
```

The status bar at the bottom indicates the cursor is at Line 3, Column 10, with 4 spaces, UTF-8 encoding, CRLF line endings, C++ language, and Win32 architecture.

The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying a project structure. The main editor shows the file `work5.cpp` with the following code:

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     cout << "Display integer constants\n" << endl;
6     cout << "Octal constant 023 is " << 023 << " decimal\n";
7     cout << "Decimal constant 23 is " << 23 << " decimal\n";
8     cout << "Hexa constant 0x23 is " << 0x23 << " decimal\n";
9     return(0);
10 }
```

The terminal at the bottom shows the command to compile and run the program, followed by the output:

```
f ($?) { g++ tempCodeRunnerFile.cpp -o tempCodeRunnerFile }; if ($?) { .\tempCodeRunnerFile }
tempCodeRunnerFile.cpp:3:10: error: expected initializer at end of input
int main()
^
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work5.cpp -o work5 } ; if ($?) { .\work5 }
Display integer constants

Octal constant 023 is 19 decimal
Decimal constant 23 is 23 decimal
Hexa constant 0x23 is 35 decimal
PS C:\Users\Hachimanz\Desktop\VSC++>
```

The screenshot shows the Visual Studio Code interface with the file explorer on the left displaying a project structure. The main editor shows the file `work6.cpp` with the following code:

```
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     cout << 230.E+3 << endl;
6     cout << 230E3 << endl;
7     cout << 230000.0 << endl;
8     cout << 2.3e5 << endl;
9     cout << 0.23E6 << endl;
10    cout << .23e+6 << endl;
11    return(0);
12 }
```

The terminal at the bottom shows the command to compile and run the program, followed by the output:

```
Octal constant 023 is 19 decimal
Decimal constant 23 is 23 decimal
Hexa constant 0x23 is 35 decimal
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work6.cpp -o work6 } ; if ($?) { .\work6 }
230000
230000
230000
230000
230000
230000
PS C:\Users\Hachimanz\Desktop\VSC++>
```

```
File Edit Selection View Go Run Terminal Help
work7.cpp - VSC++ - Visual Studio Code

EXPLORER
VSC++
> .vscode
Lab1.cpp
Lab1.exe
Lab2.cpp
Lab2.exe
Lab3.cpp
Lab3.exe
Lab4.cpp
Lab4.exe
tempCodeRunnerFile.cpp
vsc++.txt
work1.cpp
work1.exe
work2.cpp
work2.exe
work3.cpp
work3.exe
work4.cpp
work4.exe
work5.cpp
work5.exe
work6.cpp
work6.exe
work7.cpp
work7.exe
work8.cpp
work8.exe
> OUTLINE

work7.cpp
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     float f;
6     int i;
7     char c;
8     double d;
9     cout << "f value is " << f << endl;
10    cout << "i value is " << i << endl;
11    cout << "c value is " << c << endl;
12    cout << "d value is " << d << endl;
13    return (0);
14 }

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
230000
230000
230000
230000
230000
230000
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work7.cpp -o work7 } ; if ($?) { .work7 }
f value is 0
i value is 16
c value is
d value is 2.12448e-322
PS C:\Users\Hachimanz\Desktop\VSC++>
```

```
File Edit Selection View Go Run Terminal Help
work8.cpp - VSC++ - Visual Studio Code

EXPLORER
VSC++
> .vscode
Lab1.cpp
Lab1.exe
Lab2.cpp
Lab2.exe
Lab3.cpp
Lab3.exe
Lab4.cpp
Lab4.exe
tempCodeRunnerFile.cpp
vsc++.txt
work1.cpp
work1.exe
work2.cpp
work2.exe
work3.cpp
work3.exe
work4.cpp
work4.exe
work5.cpp
work5.exe
work6.cpp
work6.exe
work7.cpp
work7.exe
work8.cpp
work8.exe
> OUTLINE

work8.cpp
1 #include <iostream>
2 #include <string>
3 using namespace std;
4 int main()
5 {
6     string ID = "64-0602-142-0352";
7     string Name = "Pisanu Prasongsab";
8     float Gpa = 3.33;
9     short Age = 21;
10    string Department = "Information Technology";
11    string Room = "1RA";
12    cout << "Student Code : " << ID << endl;
13    cout << "Student Name : " << Name << endl;
14    cout << "Department : " << Department << endl;
15    cout << "Room : " << Room << endl;
16    cout << "Age : " << Age << endl;
17    cout << "Gpa : " << Gpa << endl;
18    return (0);
19 }

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
f value is 0
i value is 16
c value is
d value is 2.12448e-322
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work8.cpp -o work8 } ; if ($?) { .work8 }
Student Code : 64-0602-142-0352
Student Name : Pisanu Prasongsab
Department : Information Technology
Room : 1RA
Age : 21
Gpa : 3.33
PS C:\Users\Hachimanz\Desktop\VSC++>
```

```
File Edit Selection View Go Run Terminal Help
work9.cpp - VSC++ - Visual Studio Code

EXPLORER
VSC++
  Lab2.cpp
  Lab2.exe
  Lab3.cpp
  Lab3.exe
  Lab4.cpp
  Lab4.exe
  tempCodeRunnerFile.cpp
  vsc++.txt
  work1.cpp
  work1.exe
  work2.cpp
  work2.exe
  work3.cpp
  work3.exe
  work4.cpp
  work4.exe
  work5.cpp
  work5.exe
  work6.cpp
  work6.exe
  work7.cpp
  work7.exe
  work8.cpp
  work8.exe
  work9.cpp
  work9.exe
  work10.cpp
  work10.exe
  > OUTLINE

work9.cpp
1 #include <iostream>
2 #include <string>
3 using namespace std;
4 int main()
5 {
6     string Name;
7     int Age;
8     cout << "Enter name : ";
9     cin >> Name;
10    cout << "Enter age : ";
11    cin >> Age;
12    cout << "\nHello, "<< Name << ", "<< endl;
13    cout << "You have "<< Age << " year old."<< endl;
14    cout << "You are beginner programmer."<< endl;
15    return(0);
16 }
```

```
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Department : Information Technology
Room : 1RA
Age : 21
Gpa : 3.33
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work9.cpp -o work9 } ; if ($?) { .\work9 }
Enter name : Pisanu
Enter age : 21

Hello, Pisanu.
You have 21 year old.
You are beginner programmer.
PS C:\Users\Hachimanz\Desktop\VSC++>
```

Ln 15, Col 15 Spaces: 4 UTF-8 CRLF C++ Win32

```
File Edit Selection View Go Run Terminal Help
work10.cpp - VSC++ - Visual Studio Code

EXPLORER
VSC++
  Lab2.cpp
  Lab2.exe
  Lab3.cpp
  Lab3.exe
  Lab4.cpp
  Lab4.exe
  tempCodeRunnerFile.cpp
  vsc++.txt
  work1.cpp
  work1.exe
  work2.cpp
  work2.exe
  work3.cpp
  work3.exe
  work4.cpp
  work4.exe
  work5.cpp
  work5.exe
  work6.cpp
  work6.exe
  work7.cpp
  work7.exe
  work8.cpp
  work8.exe
  work9.cpp
  work9.exe
  work10.cpp
  work10.exe
  > OUTLINE

work10.cpp
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int Number1, Number2;
6     cout << "Program Addition 2 values."<< endl ;
7     cout << "Enter first number : ";
8     cin >> Number1;
9     cout << "Enter second number : ";
10    cin >> Number2;
11    cout << endl;
12    cout << "Sum "<< Number1 << " + "<< Number2;
13    cout << " = "<< Number1 + Number2 << endl;
14    return (0);
15 }
16 }
```

```
PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
Enter age : 21
Hello, Pisanu.
You have 21 year old.
You are beginner programmer.
PS C:\Users\Hachimanz\Desktop\VSC++> cd "c:\Users\Hachimanz\Desktop\VSC++\" ; i
f ($?) { g++ work10.cpp -o work10 } ; if ($?) { .\work10 }
Program Addition 2 values.
Enter first number : 50
Enter second number : 20

Sum 50 + 20 = 70
PS C:\Users\Hachimanz\Desktop\VSC++>
```

Ln 14, Col 16 Spaces: 4 UTF-8 CRLF C++ Win32