

8. Keyword, Variable & Data Type

```
5  int main()
6  {
7      int id, age;
8      float cgpa = 3.92;
9
10     id = 1302020017;
11     age = 31;
12
13     cout << "Student Id : " << id << endl;
14     cout << "Student age: " << age << endl;
15     cout << "Student cgpa: " << cgpa << endl;
```

9. String Variable

```
#include <iostream>
#include <conio.h>
using namespace std;

Codeium: Refactor | Explain | Generate Function Comment | X
int main()
{
    char name[13] = "Shakil";

    cout << "My name is : " << name << endl ;
    getch();
}
```

Output: Name: My name is : Shakil

10. How to Get User Input

```
program6 > C++ program6.cpp
1  #include <iostream>
2  #include <conio.h>
3  using namespace std;
4
5  Codeium: Refactor | Explain | Generate Function Comment | X
6  int main ()
7  {
8      char name[20];
9      float gpa;
10
11     // taking user input
12     cout << "Enter your name : " << endl;
13     cin >> name;
14     cout << "Enter your gpa : " << endl;
15     cin >> gpa;
16
17     //printing
18     cout << "_____ " << endl;
19     cout << "Name : " << name << endl;
20     cout << "GPA : " << gpa << endl;
21     cout << "_____ " << endl;
22     getch();
23 }
```

13. Calculating Area of Triangle

```
program7 > C++ program7.cpp
1  #include <iostream>
2  #include <conio.h>
3  using namespace std;
4
5  Codeium: Refactor | Explain | Generate Function Comment | X
6  int main()
7  {
8      int num1, num2, result;
9      cout << "Enter num1 : ";
10     cin >> num1;
11
12     cout << "Enter num2 : ";
13     cin >> num2;
14
15     result = num1 + num2;
16     cout << "sum is : " << result << endl;
17
18     result = num1 - num2;
19     cout << "sub is : " << result << endl;
20
21     result = num1 * num2;
22     cout << "Mul is : " << result << endl;
23
24     result = num1 / num2;
25     cout << "div is : " << result << endl;
26
27     result = num1 % num2;
28     cout << "Remainder is : " << result << endl;
29
30
31     getch();
32 }
```

14. Temperature Converter

```
program10 > C++ program10.cpp
1  // Temperature converter
2  // celsius = (fahrenheit-32) / 1.8
3  // fahrenheit = 1.8 celsius + 32
4
5  #include <iostream>
6  #include <conio.h>
7  using namespace std;
8  Codeium: Refactor | Explain | Generate Function Comment | X
9  int main()
10 {
11     double celsius, fahrenheit;
12     cout << "Enter Celsius: ";
13     cin >> celsius;
14
15     fahrenheit = 1.8 * celsius + 32;
16
17     cout << "Fahrenheit = " << fahrenheit;
18     getch();
19 }
```

15. Assignment Operator

```
#include <iostream>
#include <conio.h>
using namespace std;
```

Codeium: Refactor | Explain | Generate Function Comment | ✕

```
int main()
{
    int x = 3;
    int y = 2;

    x += y;
    cout << x << endl;

    x -= y;
    cout << x << endl;

    x *= y;
    cout << x << endl;

    x /= y;
    cout << x << endl;

    x %= y;
    cout << x << endl;

    getch();
}
```

16. Unary Operator

```
// Unary Operator → + (unary plus), - (unary minus), ++, --
#include <iostream>
#include <conio.h>
using namespace std;
```

Codeium: Refactor | Explain | Generate Function Comment | ✕

```
int main()
{
    int x = 5;
    cout << -x << endl;
    cout << x++ << endl;
    cout << ++x << endl;
    cout << x-- << endl;
    cout << --x << endl;

    getch();
}
```

20. Bitwise Operator

```
3  #include <conio.h>
4  using namespace std;
5
6  Codeium: Refactor | Explain | Generate Function Comment | X
7  int main()
8  {
9      int a = 32;
10     int b = 12;
11     int c;
12
13     c = a & b;
14     cout << "a & b = " << c;
15
16     c = a | b;
17     cout << "a | b = " << c;
18
19     c = a ^ b;
20     cout << "a ^ b = " << c;
21
22     // 2 times divided by 2
23     c = a >> 2;
24     cout << "a >> 2 = " << c;
25
26     // 3 times divided by 2
27     c = a >> 3;
28     cout << "a >> 3 = " << c;
29
30     c = a << 2;
31     cout << "a << 2 = " << c;
32
33
34     getch();
35 }
```

21. If Statement | 22. If Else-If Statement

```
1 // Relational operator
2 // statement
3 // control statement - conditional (if, else if, else), loop (for, while, do while), jump (break, continue, return)
4 // if, else if, else statement
5 #include <iostream>
6 #include <conio.h>
7 using namespace std;
8
9 Codeium: Refactor | Explain | Generate Function Comment | X
10 int main()
11 {
12     int number;
13
14     if(number > 0)
15     {
16         cout << "Positive" << endl;
17     }
18     else if(number < 0)
19     {
20         cout << "Negative" << endl;
21     }
22     else
23     {
24         cout << "Zero" << endl;
25     }
26
27     getch();
28 }
```

24. Even-Odd | Large-Small | Pass-Fail | Absolute Value

```
1 // Letter grade program
2
3 #include <iostream>
4 #include <conio.h>
5 using namespace std;
6
7 Codeium: Refactor | Explain | Generate Function Comment | X
8 int main()
9 {
10     int marks;
11     cout << "Enter your marks = ";
12     cin >> marks;
13
14     if(marks>100)
15     {
16         cout << "Invalid Mark" << endl;
17     }
18     else if(marks< 0)
19     {
20         cout << "Invalid Mark" << endl;
21     }
22     else if(marks ≥ 80)
23     {
24         cout << "A++" << endl;
25     }
26     else if(marks ≥ 70)
27     {
28         cout << "A" << endl;
29     }
30     else if(marks ≥ 60)
31     {
32         cout << "A-" << endl;
33     }
34     else if(marks ≥ 50)
35     {
36         cout << "B" << endl;
37     }
38     else if(marks ≥ 40)
39     {
40         cout << "C" << endl;
41     }
42     else if(marks ≥ 33)
43     {
44         cout << "D" << endl;
45     }
46     else
47     {
48         cout << "Fail";
49     }
50 }
```

29. Large / Small Number Among 3 Numbers

```
1  // large / small number among 3 numbers
2
3  #include <iostream>
4  #include <conio.h>
5  using namespace std;
6
7
8  Codeium: Refactor | Explain | Generate Function Comment | ✕
9  int main()
10 {
11     int num1, num2, num3, large;
12     cout << "Enter 3 numbers: ";
13     cin >> num1 >> num2 >> num3;
14
15     if(num1 > num2 && num1 > num3)
16     {
17         large = num1;
18     }
19     else if(num2 > num1 && num2 > num3)
20     {
21         large = num2;
22     }
23     else
24     {
25         large = num3;
26     }
27
28     cout << "Large Number is : " << large << endl;
29
30     getch();
31 }
```