

MINOR ASSIGNMENT-03

Game Programming with C++ (CSE 3545)

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Course Outcome: CO₃

Program Outcome: PO₃

Submission on: 30-03-2025

Learning Level: L₄

Problem Statement:

Experiment with Timber game mechanisms; *Time is always running out, Getting more time by chopping the tree, chopping tree causes the branches to fall, the player must avoid the falling branches and repeat until time runs out or the player is squished* using C++ with Simple and Fast Multimedia Library(SFML).

Learning Objectives:

Students will be able to learn arrays, functions, enum class, texture, sprite, text, font, rectangle shape and keyboard handling for player's input etc. in SFML-C++

Answer the followings:

1. Write the code snippet to create two objects for each of the given classes; **Text**, **Font**, **SoundBuffer**, **Clock**, **RectangleShape** and **FloatRect** respectively.

Code Snippet

2. Fill out the places marked with the symbol, ?, in the following code snippet.

```
Texture ?;  
?.loadFromFile("sample.png");  
Sprite ?;  
?.setTexture(?);  
?.?(960,540);
```

Code Snippet

3. The **pollEvent** function of **RenderWindow** class puts data into the **event** object of the **Event** class that describes an operating system event. There would be many events stored in the queue. Construct a while loop to check for the **event** types **KeyPressed** and display a message, *KeyPressed Detected* on the `std`, if that event has occurred.

Code Snippet

4. Write the code snippet to detect the Keyboard input, **enter** key, from the user using **Keyboard** class and also display a message, *Enter Pressed* on the output stream, if **enter** key is pressed.

Code Snippet

5. SFML plays sound effect using two different classes; `SoundBuffer` and `Sound`. Write the code snippet to set up the sound effect that would be played on the Timber game event *player runs out of time*.

Code Snippet

6. Create a program to generate a random 1-D array of size 10. Additionally shift each of the array elements 2 positions to right and filled the beginning two places with random elements from the range 20 to 30. Finally display both the arrays.

Code Snippet

7. In Timber game, when the player chops, `logActive` is set to be `true`. Write the SFM-C++ code snippet in a block that only executes when `logActive` is `true` to handle a flying log.

Code Snippet

8. We know that the timber game must end badly with either the player running out of time or getting squashed by a branch. Write the code snippet to detect and execute when the player is squashed by a branch and also display message **Player Expired-Game End** at the center of the screen.

Code Snippet

9. State the algorithmic steps to express the actions that would be taken while the player press the **right key** when `bool activeInput = true;` in timber game.

Code Snippet

10. Write the sequence of SFML-C++ statements to draw the sprites; **X**, **Y**, **Z**, and **Zombies[5]** on to the game window.

Code Snippet

11. Consider the following C++ code snippet;

```
class A{private:int x,y;
public:void setXY(int x1, int y1){x=x1;y=y1;
};
void getXY(){cout<<x<<" "<<y<<endl;}
~A(){cout<<"END"<<endl;}
};int main(){A a1,a2;
a1.setXY(10,20);a2.setXY(40,50);
a1.getXY();return 0;}
```

Output

12. Consider the following C++ code snippet;

```
enum colour{
    blue, red, yellow
};
int main(){
    enum colour c;
    c=yellow;
    cout<<c<<endl;
}
```

Select the Correct one

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ None of the above

13. Consider the following C++ code snippet;

```
enum hello{
    a,b=99,c,d=-1
};
main(){
    enum hello m;
    cout<<a<<" "<<b<<" "<<c<<" "<<d<<endl;
    return 0;
}
```

Select the Correct one

- ☐ 0 1 2 3
- ☐ 0 99 100 101
- ☐ 0 99 100 -1
- ☐ None of the above