



**INTERNATIONAL ISLAMIC UNIVERSITY, ISLAMABAD**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**SECTION: A**

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**SUBMITTED TO:**

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**COURSE TITLE:**

Programming Fundamentals

**COURSE CODE:**

CS -111

## **CODE FOR GAMING WORLD:**

```
#include <iostream>
#include <chrono>
using namespace std;
int main()
{
    int num;
    char choice;
    int score1 = 0;
    int score2 = 0;
    string playerName;
    cout << "\t=====WELCOME TO THE GAMING WORLD=====\\n";
    cout << "\\nWhat's your Name: ";
    getline(cin,playerName);
    start:
    do
    {
        cout << "\\n\\t =====WELCOME TO THE GAMING WORLD
        "<<playerName<<"!=====\\n";
        cout << "\\t Choose which time limited game you want to play:\\n";
        cout << "\\t o Enter 1 for Betting Game\\n";
        cout << "\\t o Enter 2 for Hangman Game\\n";
        cout << "\\t o Enter 3 to exit game\\n";
        cout<<"\\nRemember!The number entered should be from 1 to 3!\\n";
        cin>>num;
    }while(num!=1&&num!=2&&num!=3);
    if(num==1)
    {
        int balance;
        int bettingAmount;
        int guess;
        int dice;
        const int BETTING_TIME_LIMIT = 120;
        cout << "\\n\\n\\t=====WELCOME TO THE BETTING GAME!=====\\n";
        cout << "\\t\\t  =====RULES!=====\\n";
        cout << "\\tThe following are the rules to this amazing game:\\n";
        cout << "\\to Choose a number between 1 to 10.\\n";
        cout << "\\to Winner gets 10 times the betted amount.\\n";
        cout << "\\to Wrong bet and you lose the betted amount.\\n";
```

```

cout << "\t◦ Five points are added to score in case of a win.\n";
cout << "\t◦ Remember the time limit for this game is 120 sec!\n\n";
game:
cout << "\n\nHey there " << playerName << "! Enter the starting balance to play game :
Rs ";
cin >> balance;
do
{
cout << "\nYour current balance is Rs. " << balance << "\n";
do
{
cout << "Enter the amount you want to bet : Rs.";
cin >> bettingAmount;
if(bettingAmount > balance)
cout << "\n◦ Your betting balance can't be more than the current
balance!\n" << "\nKindly re-enter the betting balance\n ";
}
while(bettingAmount > balance);
chrono::steady_clock::time_point start_time = chrono::steady_clock::now();
do
{
cout << "Guess any betting number between 1 & 10 :";
cin >> guess;
if(guess <= 0 || guess > 10)
cout << "\n◦ Number should be between 1 to 10\n" << "◦ Re-enter number:\n ";
}
while(guess <= 0 || guess > 10);
srand((time(0)));
dice = rand()%10 + 1;
chrono::steady_clock::time_point end_time = chrono::steady_clock::now();
chrono::duration<double> elapsed_seconds = end_time - start_time;
if (elapsed_seconds.count() >= BETTING_TIME_LIMIT)
{
cout << "\n\tTime's up! GAME OVER\n";
goto jumpp;
}
if(dice == guess)
{
cout << "\n\nYou are in luck! You have won Rs." << bettingAmount * 10;
balance = balance + bettingAmount * 10;
score1 = score1 + 5;
}
else

```

```

{
cout << "\nOops! Better luck next time! You lost Rs. " << bettingAmount << "\n";
balance = balance - bettingAmount;
}
cout << "\nThe winning number was " << dice << "\n";
if (balance <= 0)
{
cout << "\nGAME OVER! You have run out of money!\n";
goto jumpp;
}
cout << "\n" << playerName << "!You have balance of Rs. " << balance << "\n";
cout << "Your total score is " << score1 << "\n";
cout << "\n\n○ Do you want to continue playing this game? (y/n)?";
cin >> choice;
}
while(choice == 'Y' || choice == 'y');
jumpp:
cout << "\n\n" << playerName << "! " << "Thanks for playing the game.\nYour total
balance is Rs. " << balance << endl;
cout << "Youre final score is " << score1 << endl;
    cout << "\n○ Would you like to play this game again(y/n)";
    cin >> choice;
    if(choice == 'Y' || choice == 'y')
    {
        goto game;
    }
    cout << "\n○ Would you like to the menu option?(y/n)";
    cin >> choice;
    if(choice == 'Y' || choice == 'y')
    {
        goto start;
    }
    else
    {
        goto end;
    }
}
else if(num==2)
{
    const int BETTING_TIME_LIMIT = 120;
    cout << "\n\n\t=====WELCOME TO THE HANGMAN
GAME!===== \n";
    cout << "\t\t=====RULES!===== \n";

```

```

cout << "\tThe rules of this game are simply as pie!\n";
cout << "\t◦ The category is 'EXOTIC FRUITS'.\n";
cout << "\t◦ You simply have to guess the given word.\n";
cout << "\t◦ A total of 7 chances are given at the start of each game.\n";
cout << "\t◦ Two points are added to score in case of a win.\n";
cout << "\t◦ In case of loss no change is observed.\n";
cout << "\t◦ If you fail to guess then you will be simply hanged and be named the
hangman!\n";
cout << "\t◦ Remember the time limit for this game is 120 sec!\n\n";
const int Total_Chances = 7; // maximum number of incorrect guesses allowed //
Possible words to be guessed
hangman:
const string words[] =
{
    "KIWI",
    "GUAVA",
    "PERSIMMON",
    "DURIAN",
    "AVACADO",
    "DRAGONFRUIT",
    "PAPAYA",
    "LYCHEE"
};
srand((time(0)));
int randomword = rand() % 8;
string wordToGuess = words[randomword]; // word to be guessed
int length = wordToGuess.length();
string soFar(length, '-'); // word guessed so far
string used = ""; // letters already guessed
int wrong = 0; // number of incorrect guesses
// Record start time
chrono::steady_clock::time_point start_time = chrono::steady_clock::now();
while (wrong < Total_Chances && soFar != wordToGuess)
{
    cout << "\n\nYou have " << (Total_Chances - wrong) << " guesses left.\n";
    cout << "\nYou've used the following letters:\n" << used << endl;
    cout << "\nSo far, the word is:\n" << soFar << endl;
    char guess;
    cout << "Your score is " << score2 << endl;

    cout << "\n\nEnter your guess: ";
    cin >> guess;
    guess = toupper(guess); // make uppercase since word is in uppercase

```

```

// Record end time
chrono::steady_clock::time_point end_time = chrono::steady_clock::now();
chrono::duration<double> elapsed_seconds = end_time - start_time;
if (elapsed_seconds.count() >= BETTING_TIME_LIMIT) {
    cout << "Time's up! GAME OVER!\n";
    goto jump;
}
while (used.find(guess) != -1)
{
    cout << "\nYou've already guessed " << guess << endl;
    cout << "Enter your guess: ";
    cin >> guess;
    guess = toupper(guess);
}
used += guess;
if (wordToGuess.find(guess) != -1)
{
    cout << "That's right! " << guess << " is in the word.\n";
    score2=score2+2;
    for (int i = 0; i < length; ++i)
    {
        if (wordToGuess[i] == guess)
        {
            soFar[i] = guess;
        }
    }
}
else
{
    cout << "Sorry, " << guess << " isn't in the word.\n";
    ++wrong;
    cout<<"Total number of wrong guesses "<<wrong;
}
} // game is over, print result
if (wrong ==Total_Chances)
{
    cout << "\n\nYou've been hanged!";
}
else
{
    cout << "\n\nCongratulations! You guessed the word!";
}
cout << "\nThe word was " << wordToGuess << endl;

```

```

jump:
cout << playerName<<"!"<<"Your total score is " << score2 << endl;
cout<<"\n○ Would you like to play again?(y/n)";
    cin>>choice;
    if(choice == 'Y' || choice == 'y')
    {
        goto hangman;
    }
cout<<"\n\n○ Would you like to go to the menu option?(y/n)";
    cin>>choice;
    if(choice == 'Y' || choice == 'y')
    {
        goto start;
    }
    else
    {
        goto end;
    }
}
else if(num==3)
{
    end:
    int totalscore=0;
    totalscore=score1+score2;
    cout<<"\n\n\t=====GAME OVER=====";
    cout<<"\n\tThank you for playing our games "<<playerName<<"!\n\tYour final
score is "<<totalscore<<". "<<endl;
    cout<<"\n\t\tGOOD BYE AND COME AGAIN!\t";
}
return 0;
}

```

## OUTPUT:

### MENU:

```
=====WELCOME TO THE GAMING WORLD=====

What's your Name: Sajjal Khalil

=====WELCOME TO THE GAMING WORLD Sajjal Khalil!=====
Choose which time limited game you want to play:
o Enter 1 for Betting Game
o Enter 2 for Hangman Game
o Enter 3 to exit game

Remember!The number entered should be from 1 to 3!
1
```

### BETTING GAME:

```
=====WELCOME TO THE BETTING GAME!=====
=====RULES!=====
The following are the rules to this amazing game:
o Choose a number between 1 to 10.
o Winner gets 10 times the betted amount.
o Wrong bet and you lose the betted amount.
o Five points are added to score in case of a win.
Remember the time limit for this game is 120 sec!

Hey there Sajjal Khalil! Enter the starting balance to play game : Rs 100

Your current balance is Rs. 100
Enter the amount you want to bet : Rs.1
Guess any betting number between 1 & 10 :3

Oops! Better luck next time! You lost Rs. 1

The winning number was 1

Sajjal Khalil!You have balance of Rs. 99
Your total score is 0

o Do you want to continue playing this game? (y/n)?y

Your current balance is Rs. 99
Enter the amount you want to bet : Rs.3
Guess any betting number between 1 & 10 :2

Oops! Better luck next time! You lost Rs. 3

The winning number was 4

Sajjal Khalil!You have balance of Rs. 96
Your total score is 0

o Do you want to continue playing this game? (y/n)?n
```



```

o Do you want to continue playing this game? (y/n)?n

Sajjal Khalil!Thanks for playing the game.
Your total balance is Rs. 96
Youre final score is 0

o Would you like to play this game again(y/n)n

o Would you like to the menu option?(y/n)y

=====WELCOME TO THE GAMING WORLD Sajjal Khalil!=====
Choose which time limited game you want to play:
o Enter 1 for Betting Game
o Enter 2 for Hangman Game
o Enter 3 to exit game

Remember!The number entered should be from 1 to 3!
2

```

## HANGMAN GAME:

```

=====WELCOME TO THE GAMING WORLD Sajjal Khalil!=====
Choose which time limited game you want to play:
o Enter 1 for Betting Game
o Enter 2 for Hangman Game
o Enter 3 to exit game

Remember!The number entered should be from 1 to 3!
2

=====WELCOME TO THE HANGMAN GAME!=====
=====RULES!=====
The rules of this game are simply as pie!
o The category is 'EXOTIC FRUITS'.
o You simply have to guess the given word.
o A total of 7 chances are given at the start of each game.
o Two points are added to score in case of a win.
o In case of loss no change is observed.
o If you fail to guess then you will be simply hanged and be named the hangman!
o Remember the time limit for this game is 120 sec!

You have 7 guesses left.

You've used the following letters:

So far, the word is:
-----
Your score is 0

Enter your guess: s
Sorry, S isn't in the word.
Total number of wrong guesses 1

You have 6 guesses left.

You've used the following letters:
S

```

So far, the word is:

-----

Your score is 0

Enter your guess: a

That's right! A is in the word.

You have 6 guesses left.

You've used the following letters:

SA

So far, the word is:

A-A-A--

Your score is 2

Enter your guess: v

That's right! V is in the word.

You have 6 guesses left.

You've used the following letters:

SAV

So far, the word is:

AVA-A--

Your score is 4

Enter your guess: c

That's right! C is in the word.

You have 6 guesses left.

You've used the following letters:

SAVC

So far, the word is:

So far, the word is:

AVACA--

Your score is 6

Enter your guess: d

That's right! D is in the word.

You have 6 guesses left.

You've used the following letters:

SAVCD

So far, the word is:

AVACAD-

Your score is 8

Enter your guess: o

That's right! O is in the word.

Congratulations! You guessed the word!

The word was AVACADO

Sajjal Khalil!Your total score is 10

o Would you like to play again?(y/n)n

o Would you like to go to the menu option?(y/n)y

## ENDING GAME:

```
o Would you like to go to the menu option?(y/n)y

=====WELCOME TO THE GAMING WORLD Sajjal Khalil!=====
Choose which time limited game you want to play:
o Enter 1 for Betting Game
o Enter 2 for Hangman Game
o Enter 3 to exit game

Remember!The number entered should be from 1 to 3!
3

=====GAME OVER=====
Thank you for playing our games Sajjal Khalil!
Your final score is 10.

GOOD BYE AND COME AGAIN!

...Program finished with exit code 0
Press ENTER to exit console.
```