Pseudocode: Project 1

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Project 1: A 3 game set of tennis

- System Libraries
iostream library for input and output
fstream library for file manipulation

using standard namespace

- User Libraries
N/A

- Global Constants: constants that are true amongst the entire program
N/A

- Function Prototypes
void game1(no parameters)
void game2(‘’)
void game3(‘’)

(main function that calls functions game1, game2, and game3)

```
Output "After entering a letter or number, hit the return/enter key."   *next line*
Output    *next line*
Output  "Would you like to play a game of tennis?"    *next line*
Declare variable type: char and variable: choice
Input  choice
Allow for true or false/switch/boolean expression of the variable “choice”

    when choice is ‘Y':

        Output   "Enter the letter s to begin the game"    *next line*
        char start
        Input  start
```

switch (start)

When start is 's':

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game
call function break(end of this true or false case)

When start is 'S':

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game
call function break(end of this true or false case)

if not choice ‘s’ or ‘S’, then Output:

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game

When choice is 'y'

Output "Enter the letter s to begin the game" *next line*
char start
Input start
switch (start)

When start is 's':

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game

call function break(end of this true or false case)

When start is 'S':

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game
call function break(end of this true or false case)

if not choice ‘s’ or ‘S’, then Output:

call function game1() to run first game
call function game2() to run second game
call function game3() to run third game

if not choice ‘y’ or ‘Y’, then Output "Goodbye :-)" ; *next line*

return the “true” value 0 from the main function

void game1()

declare unsigned short game = 0, points = 0, serve, serve2, serve3
Output "We are going to play a game of tennis." *next line*
Output "The instructions to the game can be found in the attached PDF." *next line*
Output "Enjoy" *next line*
for a value unsigned int k = 1, within the a value that satisfies k <= 4; update k by adding 1

Output "Please enter the type of serve you would like to hit, followed by the enter key.*next line*
Input serve
if serve == 1

```
Output   "Your opponent responded with soft flat shot."    *next line*
Output   "Respond with the corresponding shot type number you'd like."    *next line*
Input  serve2

if serve2 == 1

   Output   "You won the point."    *next line*
   points = points +  15
   Output   "Your point total is "   points    *next line*

if the prior is false, then  serve2 == 2

   Output   "Your opponent responded with deep topspin shot."    *next line*
   Output   "Respond with the corresponding shot type number you'd like."    *next line*
   Input  serve3
   if serve3 == 1

      Output   "Their shot hit the net, so you won the point!"    *next line*
      points = points + 15
      Output   "Your point total is "   points    *next line*

   if the prior is false, then  serve3 == 2 or serve3 == 3

      Output   "You lost the point."    *next line*
      points = points + 0
      Output   "Your point total is "   points    *next line*


if the prior is false, then  serve2 == 3

   Output   "Your opponent responded with short slice shot."    *next line*
   Output   "Respond with the corresponding shot type number you'd like."    *next line*
   Input  serve3
   if serve3 == 1 or serve3 == 3
```

```
        Output   "You won the point!"    *next line*
        points = points + 15
        Output   "Your point total is "   points    *next line*

    else

        Output   "You lost the point."    *next line*
        points = points + 0
        Output   "Your point total is "   points    *next line*
```

if the prior is false, then serve == 2

```
    Output   "Your opponent responded with hard flat shot."    *next line*
    Output   "Respond with the corresponding shot type number you'd like."    *next line*
    Input  serve2
    if serve2 == 2

        Output   "You won the point with a drop shot."    *next line*
        points = points + 15
        Output   "Your point total is "   points    *next line*

    if the prior is false, then  serve2 == 1 or serve2 == 3

        Output   "You lost the point"    *next line*
        points = points + 0
        Output   "Your point total is "   points    *next line*

    points = points + points
```

if the prior is false, then serve == 3

```
    Output   "Your opponent responded with drop shot."    *next line*
```

```
        Output   "Respond with the corresponding shot type number you'd like."    *next line*
        Input  serve2
        if serve2 == 1 or serve2 == 3

           Output   "You won the point with a down the line winner."    *next line*
           points = points + 15
           Output   "Your point total is "   points    *next line*

        if the prior is false, then  serve2 == 2

           Output   "You lost the point"    *next line*
           points = points + 0
           Output   "Your point total is "   points    *next line*

        points = points + points


    if points == 60

       Output   "You won a game!"    *next line*
       game = 1 + game
       Output   "Your total amount of games is 1."    *next line*

    else

       Output   "You lost the game"    *next line*



void game2()

    declare unsigned short game = 0, points = 0, serve, serve2, serve3
    Output   "We are going to play a game of tennis."    *next line*
    Output   "The instructions to the game can be found in the attached PDF."    *next line*
    Output   "Enjoy"    *next line*
    for a value unsigned int k = 1, within the a value that satisfies k <= 4; update k by adding 1
```

```
Output   "Please enter the type of serve you would like to hit, followed by the enter key."
*next line*
Input  serve
if serve == 1

   Output   "Your opponent responded with soft flat shot."    *next line*
   Output   "Respond with the corresponding shot type number you'd like."    *next line*
   Input  serve2
   if serve2 == 1

      Output   "You won the point."    *next line*
      points = points +  15
      Output   "Your point total is "   points    *next line*

   if the prior is false, then  serve2 == 2

      Output   "Your opponent responded with deep topspin shot."    *next line*
      Output   "Respond with the corresponding shot type number you'd like."    *next line*
      Input  serve3
      if serve3 == 1

         Output   "Their shot hit the net, so you won the point!"    *next line*
         points = points + 15
         Output   "Your point total is "   points    *next line*

      if the prior is false, then  serve3 == 2 or serve3 == 3

         Output   "You lost the point."    *next line*
         points = points + 0
         Output   "Your point total is "   points    *next line*


   if the prior is false, then  serve2 == 3

      Output   "Your opponent responded with short slice shot."    *next line*
```

```
    Output   "Respond with the corresponding shot type number you'd like."    *next line*
    Input  serve3
    if serve3 == 1 or serve3 == 3

       Output   "You won the point!"    *next line*
       points = points + 15
       Output   "Your point total is "   points    *next line*

    else

       Output   "You lost the point."    *next line*
       points = points + 0
       Output   "Your point total is "   points    *next line*




if the prior is false, then  serve == 2

   Output   "Your opponent responded with hard flat shot."    *next line*
   Output   "Respond with the corresponding shot type number you'd like."    *next line*
   Input  serve2
   if serve2 == 2

      Output   "You won the point with a drop shot."    *next line*
      points = points + 15
      Output   "Your point total is "   points    *next line*

   if the prior is false, then  serve2 == 1 or serve2 == 3

      Output   "You lost the point"    *next line*
      points = points + 0
      Output   "Your point total is "   points    *next line*

   points = points + points
```

```
        if the prior is false, then  serve == 3

            Output   "Your opponent responded with drop shot."    *next line*
            Output   "Respond with the corresponding shot type number you'd like."    *next line*
            Input  serve2
            if serve2 == 1 or serve2 == 3

                Output   "You won the point with a down the line winner."    *next line*
                points = points + 15
                Output   "Your point total is "   points    *next line*

            if the prior is false, then  serve2 == 2

                Output   "You lost the point"    *next line*
                points = points + 0
                Output   "Your point total is "   points    *next line*

            points = points + points


    if points == 60

        Output   "You won a game!"    *next line*
        game = 1 + game
        Output   "Your total amount of games is 1."    *next line*

    else

        Output   "You lost the game"    *next line*


void game3()

    declare unsigned short game = 0, points = 0, serve, serve2, serve3
    Output   "We are going to play a game of tennis."    *next line*
```

```
Output   "The instructions to the game can be found in the attached PDF."    *next line*
Output   "Enjoy"    *next line*
for a value unsigned int k = 1, within the a value that satisfies k <= 4; update k by adding 1

    Output   "Please enter the type of serve you would like to hit, followed by the enter key."
*next line*
    Input  serve
    if serve == 1

        Output   "Your opponent responded with soft flat shot."    *next line*
        Output   "Respond with the corresponding shot type number you'd like."    *next line*
        Input  serve2
        if serve2 == 1

            Output   "You won the point."    *next line*
            points = points +  15
            Output   "Your point total is "   points    *next line*

        if the prior is false, then  serve2 == 2

            Output   "Your opponent responded with deep topspin shot."    *next line*
            Output   "Respond with the corresponding shot type number you'd like."    *next line*
            Input  serve3
            if serve3 == 1

                Output   "Their shot hit the net, so you won the point!"    *next line*
                points = points + 15
                Output   "Your point total is "   points    *next line*

            if the prior is false, then  serve3 == 2 or serve3 == 3

                Output   "You lost the point."    *next line*
                points = points + 0
                Output   "Your point total is "   points    *next line*
```

```
    if the prior is false, then  serve2 == 3

        Output   "Your opponent responded with short slice shot."    *next line*
        Output   "Respond with the corresponding shot type number you'd like."    *next line*
        Input  serve3
        if serve3 == 1 or serve3 == 3

            Output   "You won the point!"    *next line*
            points = points + 15
            Output   "Your point total is "   points    *next line*

        else

            Output   "You lost the point."    *next line*
            points = points + 0
            Output   "Your point total is "   points    *next line*




if the prior is false, then  serve == 2

    Output   "Your opponent responded with hard flat shot."    *next line*
    Output   "Respond with the corresponding shot type number you'd like."    *next line*
    Input  serve2
    if serve2 == 2

        Output   "You won the point with a drop shot."    *next line*
        points = points + 15
        Output   "Your point total is "   points    *next line*

    if the prior is false, then  serve2 == 1 or serve2 == 3

        Output   "You lost the point"    *next line*
        points = points + 0
        Output   "Your point total is "   points    *next line*
```

```
        points = points + points


    if the prior is false, then  serve == 3

        Output   "Your opponent responded with drop shot."    *next line*
        Output   "Respond with the corresponding shot type number you'd like."    *next line*
        Input  serve2
        if serve2 == 1 or serve2 == 3

            Output   "You won the point with a down the line winner."    *next line*
            points = points + 15
            Output   "Your point total is "   points    *next line*

        if the prior is false, then  serve2 == 2

            Output   "You lost the point"    *next line*
            points = points + 0
            Output   "Your point total is "   points    *next line*

        points = points + points

declare ofstream variable, named file
open file named “Score.data”
if points == 60

    Output   "You won a game!"    *next line*
    output to file   "Your total amount of games is 3"    *next line*
    output to file   "You won!"    *next line*
    output to file   "Thank you for playing tennis with me."    *next line*
    close file named “Score.data”
    Output   "A file containing your results is now available."    *next line*

else
```

output to file "You lost the game :-/" *next line*
output to file "Thank you for playing tennis with me." *next line*
close file named “Score.data”
Output "A file containing your results is now available." *next line*