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Program 7

SE114.11

PURPOSE:

Produce a program that calculates the hourly, weekly, monthly, and yearly salaries of an employee.

Use good interactive programming techniques to build this program.

VARIABLE DICTIONARY:

REPRESENTS VARIABLE

Beginning pay rate beginning\_rate

Ending pay rate ending\_rate

Hours per week hours\_per\_week

Hourly Wage hourly\_wage

Increment to beginning rate increment\_rate

Maximum incremental max\_incremental

Maximum pay rate max\_rate

Minimum incremental min\_incremental

Minimum pay rate min\_rate

Months\_per\_year months\_per\_year

Monthly salary monthly\_salary

Run reply run\_reply

Weeks per year weeks\_per\_year

Weekly salary weekly\_salary

Yearly salary yearly\_salary

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#include <iostream>

#include <string>

using namespace std;

char run\_reply;

int months\_per\_year;

int weeks\_per\_year;

double beginning\_rate;

double ending\_rate;

double hours\_per\_week;

double hourly\_wage;

double increment\_rate;

double max\_incremental;

double max\_rate;

double min\_incremental;

double min\_rate;

double monthly\_salary;

double weekly\_salary;

double yearly\_salary;

void setup\_function();

void input\_function();

void headings\_function();

void process\_output\_function();

int main()

{

system("cls");

setup\_function();

cout << "Do you want to run the payroll calculation application? ";

cin >> run\_reply;

run\_reply = toupper(run\_reply);

while (run\_reply != 'Y' && run\_reply != 'N')

{

cout << "Error" << endl;

cout << "Enter either a Y or N " << endl;

cin >> run\_reply;

run\_reply = toupper(run\_reply);

}

system ("cls");

while (run\_reply == 'Y')

{

input\_function();

headings\_function();

process\_output\_function();

cout << "Would you like to prepare another chart? (Y/N) " << endl;

cin >> run\_reply;

run\_reply = toupper(run\_reply);

while (run\_reply != 'Y' && run\_reply != 'N')

{

cout << "Error" << endl;

cout << "Enter either a Y or N " << endl;

cin >> run\_reply;

run\_reply = toupper(run\_reply);

}

system("cls");

}

return 0;

}

void setup\_function()

{

hours\_per\_week = 40;

max\_incremental = 5;

max\_rate = 50;

min\_incremental = 1;

min\_rate = 0;

cout.setf(ios::fixed, ios::floatfield);

cout.setf(ios::showpoint);

cout.precision(2);

}

void input\_function()

{

cout << "Beginning pay rate: ";

cin >> beginning\_rate;

while(beginning\_rate <= min\_rate)

{

cout << "Error" << endl;

cout << "Enter a rate larger than " << min\_rate << endl;

cin >> beginning\_rate;

}

cout << "Ending pay rate: ";

cin >> ending\_rate;

while (ending\_rate <= beginning\_rate || ending\_rate >= max\_rate)

{

cout << "Error" << endl;

cout << "Enter a number larger than " << beginning\_rate << ", but less than " << max\_rate << endl;

cin >> ending\_rate;

}

cout << "Increment to the beginning pay rate: ";

cin >> increment\_rate;

while (increment\_rate < min\_incremental || increment\_rate > max\_incremental)

{

cout << "Error" << endl;

cout << "Enter a number from " << min\_incremental << " to " << max\_incremental << endl;

cin >> increment\_rate;

}

system("cls");

}

void headings\_function()

{

cout << " PAYROLL CHART" << endl << endl << endl;

cout << "Hourly Weekly Monthly Yearly" << endl << endl;

}

void process\_output\_function()

{

for (hourly\_wage = beginning\_rate; hourly\_wage <= ending\_rate; hourly\_wage = hourly\_wage + increment\_rate)

{

weeks\_per\_year = 52;

months\_per\_year = 12;

weekly\_salary = hourly\_wage \* hours\_per\_week;

yearly\_salary = weekly\_salary \* weeks\_per\_year;

monthly\_salary = yearly\_salary / months\_per\_year;

cout << hourly\_wage << " " << weekly\_salary << " " << monthly\_salary << " " << yearly\_salary << endl;

}

cout << endl << endl;

}