Answer of assaignment-02

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SUBJECT: PT1.

Section A-True/False.

Answer 01:

Answer: No, the interest will be 2.9 for that user account which falls under option 2.

Reason: As per the switch case, Users which falls under option 2 based on the Account balance will get interest value as 2.6 initially but since there is no break statement under case 2, Code flow will get continued with Option 3 as well. So there the interest value will get replaced by 2.9 value and flow gets broken as we have break statement in Case 3.

Answer 02:

Answer: Yes, it produces a output 0 when it is executed.

Reason:
All the logic of this question, lies here in the statement int x,y; here we declared the variables x and y as integers, integers only holds number values not the decimal values.
for example: int x=3, y=2;
cout<<y/x
here x,y are integers

when we print y/x (2/3) it gives the output as 0 not 0.667. This is because integer value only hold numbers if you assign a decimal value as shown above it only takes the number before the point and neglects the values after the point so it only prints 0 instead of printing 0.667.

Answer 03:

Answer: Yes, terminate () function causes the program to terminate regardless of which function or control mechanism is executing.

Reason:

In c++ the terminate () function is called by default to stop the program whenever an unhandled exception is there, we can also call the terminate function in the program without any exception handling in that situation it do terminates the program and prints the message "terminate called without an active exception"**.**

Answer 04:

Answer: The value return is 15 and the another one is 27.

Reason:

The variable a is declared as static, so its value stays unchanged between function calls.It is first initialized to 10.

call (5):
The value of x is stored in b, which is 5.

Then b++ is added to a, which means the value of b is added to a, then the value of b is incremented by 1.

So, value of a is 10 + 5 = 15.

a is returned whose value is 15.

After this function call is over, the value of a is still 15.

call (12):
The value of x is stored in b, which is 12.

Then b++ is added to a, which means the value of b is added to a, then the value of b is incremented by 1.

So, value of a is 15 + 12 = 27.

a is returned whose value is 27.

SECTION B -STRUCTURE QUESTION.

Answer 1(a):

```
#include<iostream>
using namespace std;
int main ()

{
   // initialize x to a dummy value
   char x = 'n';
   cout<<"Enter 'y' or non-'y': "<< endl;
   // user input
   cin>> x;
   // conditional operator
   x=='y'? cout<<"answer is = "<<1 : cout<<"answer is = "<<0;
   cout<<endl;
   system("pause");
   return 0;

}
```

Answer 1(b):

```
#include<iostream>
using namespace std;
int main()

{
      //user prompting
      cout << "Enter your transaction code. d - deposit, w - withdrawal:\n";
      char c ;
      cin >> c;
      //variables for balance and amount
      int balance = 300, amount;
      //switch case statements
      switch(c)
      {
            //for deposit
            case 'd':      cout << "Enter amount RM";
                           cin >> amount;
                           balance += amount;
                           cout << "Your current balane is now RM " << balance;
                           break;
            //for withdrawal
            case 'w':      cout << "Enter amount RM";
```

```
                        cin >> amount;
                        balance -= amount;
                        cout << "Your current balane is now RM " << balance;
                        break;
            //for invalid cases
            default:    cout << "Code is not allowed, you must Try again.";
        }
}
```

Answer 2(a):

(i)

(ii)

Answer 3(a):

```
#include <iostream>

using namespace std;

void userInput(int &numDaysSpent,float &dailyRoomRate, float &medicationCharges,float
&serviceCharges){

cout<<"Enter number of days spent: ";

cin>>numDaysSpent;

cout<<"Enter Daily room rate: ";

cin>>dailyRoomRate;

cout<<"Enter medication charges: ";

cin>>medicationCharges;

cout<<"Enter service charges: ";

cin>>serviceCharges;

}
```

```
int main ()
 {
int numDaysSpent;
float dailyRoomRate,medicationCharges,serviceCharges;
userInput(numDaysSpent, dailyRoomRate,medicationCharges,serviceCharges);
cout<<"The details are as follows: "<<endl;
cout<<"Number of days Spent: "<<numDaysSpent<<endl;
cout<<"Daily room rate: "<<dailyRoomRate<<endl;
cout<<"Medication Charges: "<<medicationCharges<<endl;
cout<<"Service Charges: "<<serviceCharges<<endl;
}
```

Answer 3(b):

```
#include <iostream>
using namespace std;
string patient_type; //declaring patient_type as global variable
//declaring two overloaded functions to calculate Total Charges
float totalCharges(int days, float room_rate, float medication_charges, float service_charges);
float totalCharges(float medication_charges, float service_charges);
int main ()

{
//calling two overloaded functions with different parameters
float inpatient_totalCharges = totalCharges(3,200,450.7,20.5);
float outpatient_totalCharges = totalCharges(410.75,50);

//Displaying the output
cout << "TotalCharges for inpatient: " << inpatient_totalCharges << endl;
cout << "TotalCharges for outpatient: " << outpatient_totalCharges << endl;
return 0;
}
//This method will calculate totalCharges for inpatient
float totalCharges(int days, float room_rate, float medication_charges, float service_charges)
{
float total_charges = days * room_rate + medication_charges + service_charges;
```

```
return total_charges;
}
//This method will calculate totalCharges for outpatient
float totalCharges(float medication_charges, float service_charges)
{
float total_charges = medication_charges + service_charges;
return total_charges;
}
```

Answer 4(a):

Answer 4(b):

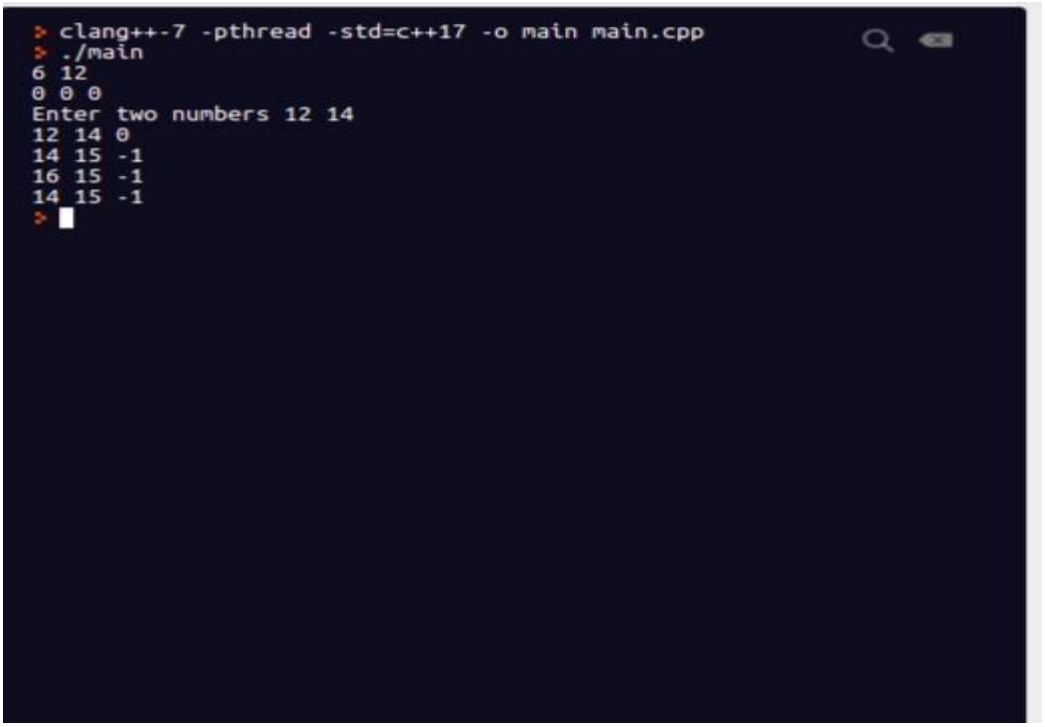
```
#include <iostream>

using namespace std;
void func1(int = 5, int = 6);
void func2(int &, int &, int &);
void func3(int&, int&);
void func4(int,int,int);
int main()
{
int x=0, y=0,z=0;
func1();
cout<<x <<" "<<y<<" "<<z<<endl;
func3(x,y);
cout<<x <<" "<<y<<" "<<z<<endl;
func2(x,y,z);
cout<<x <<" "<<y<<" "<<z<<endl;
func4(x,y,z);
cout<<x <<" "<<y<<" "<<z<<endl;
system("pause");
return 0;
}
void func1(int a, int b)
{
a++;
b+=a;
```

```
cout<<a<<" "<<b<<endl;
}
void func2(int &a, int&b, int&c)
{
b++;
c--;
a=b+c;
}
void func3(int &a, int&b)
{
cout<<"Enter two numbers: ";
cin >> a >> b;
}
void func4(int a, int b, int c)
{
a=b-c;
cout <<a << " " << b <<" " << c << endl;
return 0;

}
```

If user enter 12 and 14 then the outputs are:



Answer 4(c-i):

```
#include<iostream>
#include<iomanip>
using namespace std;

// FUNCTION PROTOTYPES
int input();
int totalDay(int);
double calcAvg(int, int);

int main()
{
  int x;
  double avg;
  x = input();
  avg = calcAvg(x, totalDay(x));
  cout << fixed << showpoint << setprecision(2);
  cout << avg;
  return 0;
}

// FUCNTION INPLEMENTATIONS
int input()
{
  int x;
  cout << "Enter the number of employees: ";
  cin >> x;
  return x;
}
int totalDay(int x)
{
  int total = 0;
  for (int i = 0; i < x; i++)
  {
     int days;
     cout << "Number of days Employee #" << (i + 1) << " was absent: ";
     cin >> days;
     total += days;
  }
  return total;
}
double calcAvg(int x, int days)
{
  return((double)days / (double)x);
}
```