



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

FACULTY OF SOCIAL SCIENCES AND
HUMANITIES

SECJ1013 - 05 (PROGRAMMING TECHNIQUE I)

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ASSIGNMENT 2

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Section A

1. Answer: False

Reason: There is no break statement in case 2. The program would execute the following lines until it meets the break statement in case 3 which makes the program calculate interest = 2.9.

2. Answer: True

Reason: y/x will result in integer division which means that the remainder or fractional part of the result will be discarded or truncated. As a result, $2/3$ will only return integer value 0.

3. Answer: False

Reason: It is the `exit()` function that causes a program to terminate, regardless of which function or control mechanism is executing.

4. Answer: True

Reason: a is a static local variable that retains its value between each function call but b does not.

Section B

Answer 1(a):

```
#include <iostream>
using namespace std;
int main(){
    char x='n';
    cout<<"enter 'y' or non-'y': "<<endl;
    cin>>x;
    (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(){

    double balance = 300;

    char depo_wd;

    double depo_balance;

    double wd_balance;

    double latest_balance;

    do{

        cout<<"enter: d - deposit, w - withdrawal"<<endl;

        cin>>depo_wd;

        switch(depo_wd){

            case 'd':

                cout<<"enter amount of deposit: RM";

                cin>>depo_balance;

                latest_balance=balance+depo_balance;

                cout<<"your current balance is now : RM"<<latest_balance;

                break;

            case 'w':

                cout<<"enter amount of withdrawal: RM";

                cin>>wd_balance;

                latest_balance=balance-wd_balance;

                cout<<"your current balance is now : RM"<<latest_balance;

                break;

            default:

                cout<<"please enter the right command!"<<endl;

        }

    } while(!(depo_wd=='d'||depo_wd=='w'));

    return 0; }
```

Answer 2(a):

```
int main(){
    int a,x=0;
    do{
        cout<<"Please enter a number in the range of 1 through 4: "<<endl;
        cin>>a;
    }while(!(a>=1 && a<=4));

    switch(a){
        case 1:
            case 2:
                x++;
                break;
            case 3:
            case 4:
                x--;
                break;
            default:
                cout<< (x+=2);
                break;
    }
    cout<<x<<endl;
    system("PAUSE");
    return 0;
}
```

Answer 3(a):

```
void input(double&a, double&b, double&c, double&d){  
    cout<<"Please enter the number of days spent : ";  
    cin>> a;  
    cout<<"Please enter the daily room rate : ";  
    cin>> b;  
    cout<<"Please enter the medication charges : ";  
    cin>> c;  
    cout<<"Please enter the service charges : ";  
    cin>> d;  
}
```

Answer 3(b):

```
double totalCharge(double a, double b, double c, double d){  
    double total = a*b+c+d;  
    return total;  
}
```

```
double totalCharge(double c, double d){  
    double total = c+d;  
    return total;  
}
```

Answer 4(a):

Answer 4(b):

6 12
0 0 0
12 14 0
14 15 -1
16 15 -1
14 15 -1

Answer 4(c):

```
int input(){
    int num;
    cout<<"Please enter the number of employees in the company: ";
    cin >> num;
    return num;
}

int totalDay(int num){
    int days, total = 0;
    for (int i = 0; i < num; i++){
        cout<<"Enter the number of days each employee absent in the past year : ";
        cin >> days;
        total = total + days;
    }
    return total;
}

double calcAvg(int num1, int num2){
    return (static_cast<double>(num2)/num1);
}
```