ASSINGMENT OF SOFTWARE-ENGINEERING

SUBMITTED TO

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CLASS

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Buggy Code Solution -

```
#include<iostream>
#include<conio.h>
using namespace std;
int main()
{
        cout << "Solution For Buggy Code"
        << endl;
        cout << "This program will crash"
        << endl;
        // initialize the sum with the 0
        int nSum=0;  //MISTAKE CORRECTED.
        int nNums;
        // accumulate input numbers until the
        // user enteres a negative number, then
        // return the average
        nNums = 0;
        while(true)
        {           // enter another number to add
                int nValue;
                cout << "Enter another number:";
                cin >> nValue;
                cout << endl;
                // if the input number is negative...
                if(nValue < 0)
                {
                        // ... then output the average
                        cout << "Average is: "
```

```
                    << nSum/nNums
                    << endl;
                break;
            }
            // not negative, add the value to
            // the accumulator
            // incrementing for getting nNums to find average
            nNums++;
            nSum += nValue;
        }
        cin.ignore(10000, '\n');
        return 0;
    }
```

Programming Mistake Solution –

//1:
Undeclared Variables:

```
#include<iostream>
using namespace std;
int main()
{
int x;
cin>>x;
cout<<x;
}
//"Huh? Why do I get an error?"
```

Ans= The variable x is not inintialize.

2:// Uninitialized variables:

```
#include<iostream>
using namespace std;
int main ()
{
int count=40<<endl;
while(count<100)
{
cout<<count;
count++;
}
return 0;
}
//"Why doesn't my program enter the while loop?"
```

Ans= You didnot initialise the count so that is why it was not entering the while loop.

//3: Setting a variable to an uninitialized value:

```
#include<iostream>
using namespace std;
int main()
{
int a, b;
int sum=0;
cout<<"Enter two numbers to add: ";
cin>>a>>b;
sum=a+b;
cout<<"The sum is: "<<sum;
}
//When Run:
//Enter two numbers to add: 1 3
//The sum is: -1393
//"What's wrong with my program?"
```

Ans= The sum were used early now it will produce the write answer.

//4: Using a single equal sign to check equality:

```
#include<iostream>
using namespace std;
int main()
{
char x='Y';
while(x=='Y' || x=='y')
{
//...
cout<<"Continue? (Y/N)";
cin>>x;
}
return 0;
}
//"Why doesn't my loop ever end?"
```

Ans= Because the operatoe used was not correct you used assignment operator instead of equal sign

//5: Undeclared Functions:

```
#include<iostream>
using namespace std;
void menu();
int main()
{
menu();
  return 0;
}
void menu()
{
cout<<"hello";
}
//"Why do I get an error about menu being unknown?"
```

Ans= you were getting the error because you didn't declare the function before main

//6: Extra Semicolons:

```
#include<iostream>
using namespace std;
int main()
{
for(int x=0; x<100; x++)
cout<<x<<endl;
}
//"Why does it output 100?"
```

Ans= No need for the semi colon after the for loop

//7: Overstepping array boundaries

```
#include <iostream>
using namespace std;
int main()
{
int array[10];
//...
for(int x=0; x<=9; x++)
cout<<array[x]<<endl;
}
//"Why doesn't it output the correct values?"
```

Ans= An Array index always start with zero

//8: Integer division

```
#include <iostream>
using namespace std;
int main()
{
//For example:
double half = 1/2;
cout<<half;
float half1 = 1.0/2.0;
cout<<half1;
}
//This code sets half to 0 not 0.5! Why?
```

Ans= Because 1 and 2 are integer constants.

//9: Variable Name Styles

```
//Take a look at the below program. Can you see anything wrong?
#include <stdio.h>
#include <string.h>
main()
{
char CatName[20] = "fluffy";
char dogName[20] = "fido";
char rat_Name[20] = "fester";
int Catage = 3;
int dogs_age = 4;
int ratage = 1;
char myPet[20];
int itsAge;
strcpy(myPet,rat_Name);
itsAge = ratage;
printf("My pet is %s\n",myPet);
}
//Besides the obviously bizarre choice of having a pet rat, do you notice
anything?
```

Ans= It will print rat_Name because of strcpy

//10 Misusing the && and || operators:

```
#include <iostream>
using namespace std;
int main()
{
int value;
do
{
//...
value=10;
  cout<<"hello";
}while(!(value==10) && !(value==20))
}
//"Huh? Even though value is 10 the program loops. Why?"
```

Ans = For checking both the conditions we have to use && operator.
