ASSINGMENT PF (See Project 3)

Assing. # 2

Ques 1

```
#include <iostream>
using namespace std;
int main() {
    cout << "Enter 10 integer values: "<<endl;

    for (int i = 0; i < 10; i++)
    {
        int value;
        cin >> value;

        if (value == 10) {
            cout << "Value 10 is entered. Terminating the program. "<<endl;
            break;            // Terminate the program
        }

        if (value == 5) {
            continue;          // Skip value 5 and continue to the next
iteration
        }

        // Display triple of the entered value
        cout << "Triple of " << value << " is " << value * 3 << endl;
    }
}
```

QUES 2

```
#include <iostream>
#include <cmath>

using namespace std;

int main() {

    int num = 1;
    int Count = 0;

    cout << "Enter an integer: ";
    cin >> num;

    if (num == 1)
    {
        cout << "1 is not prime " << endl;
    }
    else
    {
        bool Prime = true;

        for (int i = 2; i <= sqrt(num); i++)
```

```
        {
            if (num % i == 0)
            {
                Prime = false;
                break;
            }
        }

        if (Prime)
        {
            cout << num << " is a prime number." << endl;
        }
        else
        {
            cout << num << " is not a prime number." << endl;
        }
    }
}
```

QUES 3

```
#include <iostream>
#include <cmath>

using namespace std;

int main() {
    int num = 1;
    int Count = 0;

    while (Count < 10) {
        cout << "Enter an integer: ";
        cin >> num;

        if (num == 1)
        {
            cout << "1 is neither prime nor composite." << endl;
        }
        else
        {
            bool Prime = true;

            for (int i = 2; i <= sqrt(num); i++)
            {
                if (num % i == 0)
                {
                    Prime = false;
                    break;
                }
            }

            if (Prime)
            {
                cout << num << " is a prime number." << endl;
            }
            else
            {
```

```
                cout << num << " is a composite number." << endl;
            }

        }

        Count++;
    }


}
```

QUES 4

```
#include <iostream>
#include <cmath>

using namespace std;

int main() {
    int num = 1;
    int Count = 0;

    while (Count < 10) {
        cout << "Enter an integer: ";
        cin >> num;

        if (num == 1)
        {
            cout << "1 is neither prime nor composite." << endl;
        }
        else
        {
            bool Prime = true;

            for (int i = 2; i <= sqrt(num); i++)
            {
                if (num % i == 0)
                {
                    Prime = false;
                    break;
                }

            }

            if (Prime)
            {

                cout << num << " is a prime number." << endl;
            }

            else
            {
                cout << num << " is a composite number." << endl;
            }
            if (Count >= 3)
```

```
            {
                cout << "Three prime numbers found. Program Terminating." << endl;
              break;
            }
        }
        Count++;
    }
}
```

QUES 5

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

      char ch;
      int Count_Numeric = 0, Count_Capitals = 0, Count_Small = 0;
            cout << "enter char ";
            for (int i = 0; i < 10; i++) {

                  cin >> ch;
                  if (ch >= 'a' && ch <= 'z') {
                        Count_Small++;
                  }
                  else if (ch >= 'A' && ch <= 'Z') {
                        Count_Capitals++;
                  }
                  else if (ch >= '0' && ch <= '9')
                  {
                        Count_Numeric++;
                  }

            }
            cout << "The number are " << Count_Numeric << endl;
            cout << "The small letters are " << Count_Small << endl;
            cout << "The capitals are " << Count_Capitals << endl;
            return 0;
      }
```

QUES 6

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


int charType(char c) {
    if (c >= 'A' && c <= 'Z')
    {
        return 1;       // Capital letter
    }
    else if (c >= 'a' && c <= 'z')
    {
        return 2;       // Small letter
    }
```

```
    else if (c >= '0' && c <= '9')
    {
        return 3;       // Numeric value
    }
    return -1;          // Other character
}

int main() {
    int capitalCount = 0;
    int smallCount = 0;
    int numericCount = 0;

    cout << "Enter 50 characters: \n";

    for (int i = 0; i < 10; i++) {
        char c;
        cin >> c;

        int type = charType(c);

        // Check the character type using the function and switch structure
        switch (type) {
        case 1:
            capitalCount++;
            break;
        case 2:
            smallCount++;
            break;
        case 3:
            numericCount++;
            break;
        default:
            break; // Do nothing for other characters
        }
    }

    cout << "Capital letters: " << capitalCount << endl;
    cout << "Small letters: " << smallCount << endl;
    cout << "Numeric values: " << numericCount << endl;

    return 0;
}
```

QUES 7

```
#include<iostream>
using namespace std;
int main() {
      int choice;double x, y, area, peri, h, b;

      while (true) {

            cout << "Please enter your choice of shape" << endl;
            cout << "1 for reactangle" << endl;
            cout << "2 for square" << endl;
            cout << "3 for right angle traingle" << endl;
            cout << "4 for circle" << endl;
```

```
		cin >> choice;

		if (choice == -1) {
			break;
		}

		switch (choice) {
		case 1:
			cout << "enter length of reactangle";
			cin >> x;
			cout << "enter width of reactangle";
			cin >> y;
			area = x * y;
			peri = 2 * (x + y);
			cout << "the area of reactangle is " << area << endl;
			cout << "the peri of reactangle is " << peri << endl;
			break;
		case 2:
			cout << "enter  side of square(All Sides of Square is equal)";
			cin >> x;
			area = x * x;
			peri = 4 * x;
			cout << "the area of square is " << area << endl;
			cout << "the peri of square is " << peri << endl;
			break;

		case 3:
			cout << "enter height of traingle";
			cin >> h;
			cout << "enter base of traingle";
			cin >> b;
			cout << "Enter one side";
			cin >> x;
			cout << "Enter other side";
			cin >> y;
			area = 0.5 * h * b;
			peri = x + b + y;
			cout << "the area of traingle is " << area << endl;
			cout << "the peri of traingle is " << peri << endl;
			break;
		case 4:
			cout << "enter radius of circle ";
			cin >> x;
			area = 3.146 * x * x;
			peri = 2 * 3.14 * x;
			cout << "the area of circle is" << area << endl;
			cout << "the peri of circle is" << peri << endl;
			break;
		default:
			cout << "invalide choice.Please enter a valid choice";
			continue;
		}
		cout << "Area of shape" << area << endl;
		cout << "perimeter of shape" << peri << endl;
	}

}
```