SVKM's NMIMS

Mukesh Patel School of Technology Management and Engineering, Mumbai

Programming for Problem Solving (Exp 3-2)

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Date of Experiment: 04/10/2022	Date of Submission: 04/10/2022

Task 1:

a. **using namespace std;** is missing
   void main() cannot return 0 it has to be **int main()**
   Extra semicolon after **switch(choice)**

b. **using namespace std;** is missing
   void main() cannot return 0 it has to be **int main()**
   Invalid datatype for case inside switch (It should be char and enclosed with single quotes)

c. **using namespace std;** is missing

Task 2:

a. **Default:**

b. **Hello**
   Ok

c. **Default block executed**

Task 3:

if (node == 15)
{ curValue += 5;
    Count++;
}
	switch(node) {
	    case 15:
	        curValue += 5;
	        break;

else if (node == 40)
{ curValue *= 1.5;
  Count++;
}
else
  curValue -= 2;
	case 40:
	    curValue *= 40;
	    break;
	  default:
	    curValue -= 2;
	    break;
	}

if (grade == 'A')
   cout<<"Very good";
else if (grade== 'B')
   cout<<"Good";
else if (grade == 'C')
   cout<<"Moderate";
else
   cout<<"Try harder!";
	switch(grade) {
	    case 'A':
	      cout<<"Very good";
	      break;
	    case 'B':
	      cout<<"Good ";
	      break;
	    case 'C':
	      cout<<"Moderate";
	      break;
	    default:
	      cout<<"Try Harder!";
	}

Task 4:

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

int main() {
    int weeknumber;

    cout << "Enter week number(1-7): ";
    cin >> weeknumber;

    switch (weeknumber) {
    case 1:
        cout << "Monday";
        break;

    case 2:
```

```cpp
      cout << "Tuesday";
      break;

    case 3:
      cout << "Wednesday";
      break;

    case 4:
      cout << "Thursday";
      break;

    case 5:
      cout << "Friday";
      break;

    case 6:
      cout << "Saturday";
      break;

    case 7:
      cout << "Sunday";
      break;

    default:
      cout << "Invalid input!";

  }
  return 0;
}
```

Task 5:

```cpp
# include < iostream >
```

```cpp
using namespace std;

int main() {

    char op;
    float num1, num2;

    cout << "Enter operator: +, -, *, /: ";
    cin >> op;

    cout << "Enter two operands: ";
    cin >> num1 >> num2;

    switch (op) {

    case '+':
        cout << num1 << " + " << num2 << " = " << num1 + num2;
        break;

    case '-':
        cout << num1 << " - " << num2 << " = " << num1 - num2;
        break;

    case '*':
        cout << num1 << " * " << num2 << " = " << num1 * num2;
        break;

    case '/':
        cout << num1 << " / " << num2 << " = " << num1 / num2;
        break;

    default:
        cout << "Invalid Output!";
        break;
    }
```

```cpp
        return 0;
    }
```

Task 6:

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

int main() {

    int choice;
    float num;

    cout << "Enter choice: \n1 - Square Root of number\n2 - Power of number\n";
    cin >> choice;

    cout << "\nEnter number: ";
    cin >> num;

    switch (choice) {

    case 1:
        cout << "\nSquare Root: " << sqrt(num);
        break;

    case 2:
        cout << "\nPower: " << (num * num);
        break;

    default:
        cout << "\nInvalid Output!";
```

```
      break;
  }

  return 0;
}
```

Home Work Questions:

1.

Algorithm:

Step 1: start

Step 2: read marks or Percentage
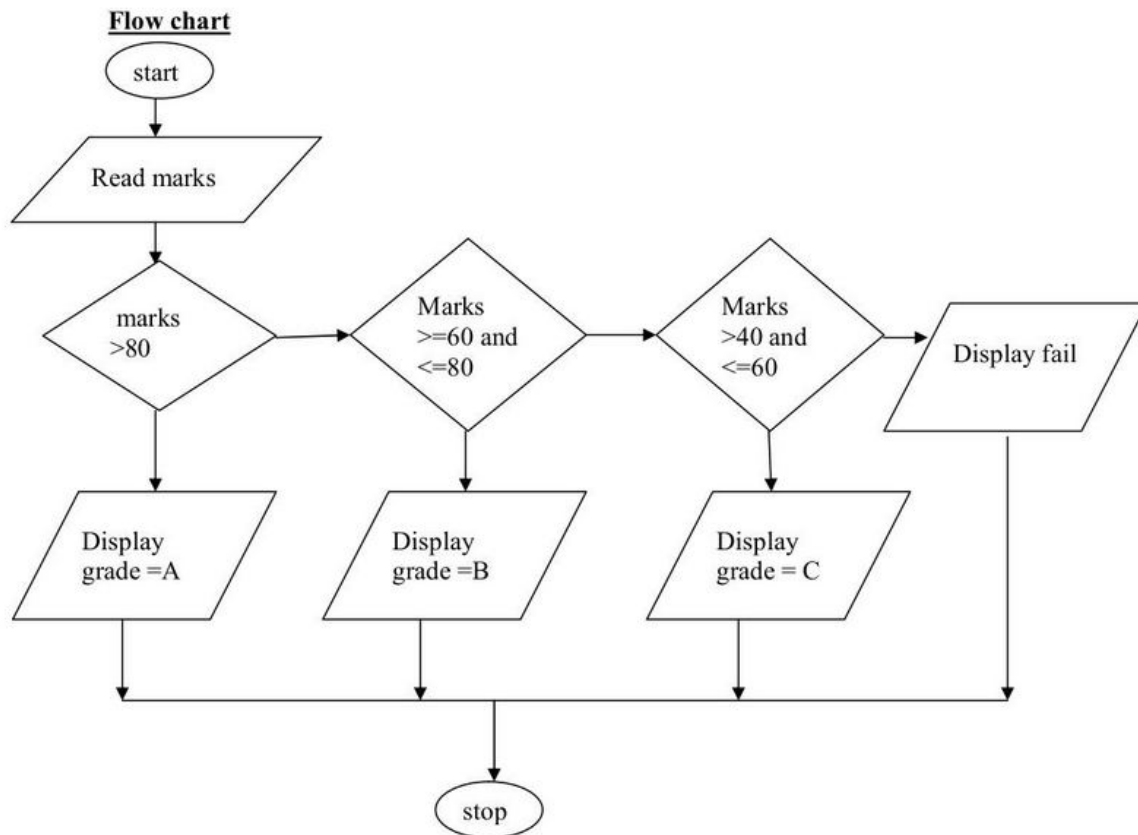
Step 3: if marks >= 80 then grade =A, go to step 7

Step 4: if marks >= 60 and marks <=80 then grade = B, go to step 7

Step 5: if marks >=40 and marks <=60 then grade = C go to step 7

Step 6: display failed

Step 7: display grade.

Step 8: stop

Flow chart

Code:

```cpp
#include <iostream>

int main()
{
    int num;
    cout << "Enter your mark: ";
    cin >> num;
    if(num >= 80){
        cout << "\n You got A grade \n";
    }
    else if (num >=60){
        cout << "\n You got B grade \n";
    }
    else if (num >=40){
        cout << "\n You got C grade \n";
    }
```

```cpp
    else if (num < 40){
        cout << "\n You Failed in this exam \n";
    }
    return 0;
}
```

2.

```cpp
#include <iostream>
using namespace std;
int main() {
    char c = 'B';
    if (c == 'a' || c == 'e' || c == 'i' ||c == 'o' || c == 'u' || c == 'A' || c == 'E' || c == 'I' ||
c == 'O' || c == 'U')
        cout <<c<< " is a Vowel" << endl;
    else
        cout <<c<< " is a Consonant" << endl;
    return 0;
}
```

3.

```cpp
#include<iostream>
using namespace std;
int main()
{
    int shape;
    cout<<"Enter the shape:\n1 - Rectangle\n2 - Circle\n3 - Triangle\n4 -
Square\n";
    cin>>shape;
    if(shape==1)
```

```cpp
{
  float length, breadth;
  cout<<"Enter the length\n";
  cout<<"Enter the breadth\n";
  cin>>breadth;
  float area = length * breadth;
  cout<<"The area of the rectangle is ";
  cout<<area;
}
else if(shape==2)
{
  float radius;
  cout<<"Enter the radius of the circle\n";
  cin>>radius;
  float area = 3.14 * radius * radius;
  cout<<"The area of the circle is ";
  cout<<area;
}
else if(shape==3)
{
  float base, height;
  cout<<"Enter the height of the triangle\n";
  cin>>height;
  cout<<"Enter the base of the triangle\n";
  cin>>base;
  float area = base * height * 0.5;
  cout<<"The area of the triangle is ";
  cout<<area;
}
else if(shape==4)
{
  float side;
  cout<<"Enter the side of the square\n";
  cin>>side;
  float area = side * side;
  cout<<"The area of the square is ";
  cout<<area;
}
```

```
    return 0;
}
```