```
#include <iostream>
#include <string>
#include <iomanip>
using namespace std;
int main(){
        int studId,yr;
        string name,course;
        double prelim,midterm,sfinal,final,totalScore = 0, averageScore=0;

        cout<<"Student id: ";
        cin>>studId;
        cin.ignore();
        cout<<"Name: ";
        getline(cin,name);
        cout<<"Course: ";
        getline(cin,course);
        cout<<"Year: ";
        cin>>yr;
        cout<<"4 Major Exams\n";
        cout<<"\tPrelim: ";
        cin>>prelim;
        cout<<"\tMidterm: ";
        cin>>midterm;
        cout<<"\tSemifinal: ";
        cin>>sfinal;
        cout<<"\tFinal: ";
        cin>>final;

        totalScore = prelim + midterm + sfinal + final;
        averageScore = totalScore / 4;

        cout<<"Total Score: "<<totalScore;
        cout<<"\nAverage Score: "<<fixed<<setprecision(2)<<averageScore;
        /*
        if(averageScore>=70)
           cout<<"\nPASSED\n";
        else
           cout<<"\nFAILED\n";*/

        if(averageScore >= 70)
           cout<<"\nPASSED\n";
        if(averageScore <70 )
           cout<<"\nFAILED";


        return 0;
}
```

```
/*Compute the weekly salary of an employee. The regular working hours per
week is 48 hours.
  If the employee will work beyond 48 hours, his/her rate beyond the 48 hours
will be
  50% more than the regular rate.

*/
#include <stdio.h>
int main(){

        char name;
        int hw;
        float hr,sal=0;

        printf("Name: ");
        scanf("%[^\n]s",&name);
        printf("Hours Worked: ");
        scanf("%d",&hw);
        printf("Hourly Rate: ");
        scanf("%f",&hr);
        /*
        if(hw>=0 && hw<=48)
             sal = hw * hr;
        else
             sal = 48*hr + ((hw - 48)*hr*1.5);

        printf("Salary: %.2f",sal);
        */
        sal = (hw>=0 && hw<=48)?hw * hr: 48*hr + ((hw - 48)*hr*1.5);
        printf("Salary: %.2f",sal);


        return 0;
}
```

```
/* Machine Problem 5

	Make a program that will ask the user to enter a number. The program should
	determine if the number entered is positive odd, negative odd, positive even, or
	negative even.

	Programmer: Vannessa Ruth A. Navarez
	Date: October 12, 2021

	USING SWITCH-CASE and IF-ELSE
*/


#include <iostream>
using namespace std;

int main (){

	int num;

	cout<<"Enter a number: ";
	cin>>num;

	switch(num%2==0){
	case  0:
		if (num < 0)
			cout<<num<<" is a NEGATIVE ODD number!\n";
		else
			cout<<num<<" is a POSITIVE ODD number!\n";
		break;
	case 1:
		if (num>0)
			cout<<num<<" is a POSITIVE EVEN number!\n";
		else
			cout<<num<<" is a NEGATIVE EVEN number!\n";

	}

	return 0;

}
```

```
/*Machine Problem #4 - C
 Calculate the tax due or the refund for a family based on the following imaginary formula.
        1. For each dependent deduct P1,000.00 from income.
        2. Determine tax rate from the following brackets:
        Programmer: Navarez, Vannessa Ruth A.
        Date: October 6, 2021
*/

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

int main (){

        float last, payroll, taxable=0, deduc=0, tax=0, due=0;
        int depend;

        cout<<"Enter total income last year: ";
        cin>>last;
        cout<<"Enter total payroll deduction: ";
        cin>>payroll;
        cout<<"Enter number of dependents: ";
        cin>>depend;
        cout<<"\nTotal Income: "<<setprecision(2)<<fixed<<last;
        cout<<"\nNumber of dependants: "<<depend;

        deduc = depend*1000;
        taxable = last - deduc;

        cout<<"\nTaxable Income: "<<taxable<<fixed<<setprecision(2);

        if (taxable <= 10000){
                tax = taxable * 0.02;
                }
        else if (taxable>10000 && taxable<=20000){
                tax = taxable * 0.05;
                }
        else if (taxable>20000 && taxable<=30000){
                tax = taxable * 0.07;
                }
        else if (taxable>30000 && taxable<=50000){
                tax = taxable * 0.10;
                }
        else if (taxable>50000){
                tax = taxable * 0.15;
                }

                cout<<"\nTotal tax: "<<tax<<fixed<<setprecision(2);
        cout<<"\nTax already paid: "<<fixed<<setprecision(2)<<payroll;
        due = tax - payroll;
        cout<<"\nTax due: "<<due<<fixed<<setprecision(2)<<endl;
        return 0;
}
```

```
	/* Machine Problem 4 – C++
	 Calculate the tax due or the refund for a family based on the following imaginary formula.
	1. For each dependent deduct P1,000.00 from income.
	2. Determine tax rate from the following brackets:
	Programmer: Navarez, Vannessa Ruth A.
	Date: October 6, 2021
*/

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

int main (){
	float last, payroll, taxable=0, deduc=0, tax=0, due=0;
	int depend;

	cout<<"Enter total income last year: ";
	cin>>last;
	cout<<"Enter total payroll deduction: ";
	cin>>payroll;
	cout<<"Enter number of dependents: ";
	cin>>depend;
	cout<<"\nTotal Income: "<<setprecision(2)<<fixed<<last;
	cout<<"\nNumber of dependants: "<<depend;

	deduc = depend*1000;
	taxable = last - deduc;

	cout<<"\nTaxable Income: "<<taxable<<fixed<<setprecision(2);

	if (taxable <= 10000){
		tax = taxable * 0.02;
		}
	else if (taxable>10000 && taxable<=20000){
		tax = taxable * 0.05;
		}
	else if (taxable>20000 && taxable<=30000){
		tax = taxable * 0.07;
		}
	else if (taxable>30000 && taxable<=50000){
		tax = taxable * 0.10;
		}
	else if (taxable>50000){
		tax = taxable * 0.15;
		}
		cout<<"\nTotal tax: "<<tax<<fixed<<setprecision(2);

	cout<<"\nTax already paid: "<<fixed<<setprecision(2)<<payroll;
	due = tax - payroll;
	cout<<"\nTax due: "<<due<<fixed<<setprecision(2)<<endl;
	return 0;

}
```

```
/* Machine Problem 3
	Using the conditional or selection control structures, create a program that will prompt the user to enter 5 numbers. Thereafter the program will determine the smallest and the largest number.

	Programmer: Vannessa Ruth A. Navarez
	Date: September 29, 2021
*/
#include <stdio.h>

int main (){
	int num1, num2, num3, num4, num5;

	printf ("Enter number 1: ");
	scanf ("%d", &num1);
	printf ("Enter number 2: ");
	scanf ("%d", &num2);
	printf ("Enter number 3: ");
	scanf ("%d", &num3);
	printf ("Enter number 4: ");
	scanf ("%d", &num4);
	printf ("Enter number 5: ");
	scanf ("%d", &num5);


	if (num1<num2 && num1<num3 && num1<num4 && num1<num5)
		printf ("Smallest: %d\n", num1);
	else if (num2<num3 && num2<num4 && num2<num5)
		printf ("Smallest: %d\n", num2);
	else if (num3<num4 && num3<num5)
		printf ("Smallest: %d\n", num3);
	else if (num4<num5)
		printf ("Smallest: %d\n", num4);
	else
		printf ("Smallest: %d\n", num5);

	if (num1>num2 && num1>num3 && num1>num4 && num1>num5)
		printf ("Largest: %d\n", num1);
	else if (num2>num3 && num2>num4 && num2>num5)
		printf ("Largest: %d\n", num2);
	else if (num3>num4 && num3>num5)
		printf ("Largest: %d\n", num3);
	else if (num4>num5)
		printf ("Largest: %d\n", num4);
	else
		printf ("Largest: %d\n", num5);

	return 0;

}
```

```
/* Machine Problem # 2
        Create a C program that will prompt the user to enter the student id, name of the student,
        degree, year, and 4 major exam scores (namely, Prelim, Midterm, Semifinal, Final). Thereafter,
        the program will calculate and display the total exam score and the average score.

        Programmer: Vannessa Ruth A. Navarez
        Date: September 15, 2021

*/

#include <stdio.h>
int main () {

        int studID, year;
        char name, degree;
        float prelim, mid, semi, final,total=0, average=0;

        printf ("Student #: ");
        scanf ("%d", &studID);
        printf ("Name     : ");
        scanf (" %[^\n]s", &name);
        printf ("Degree   : ");
        scanf (" %[^\n]s", &degree);
        printf ("Year     : ");
        scanf ("%d", &year);

        printf ("Major Exam Scores");
        printf ("\n");
        printf ("   Prelim   : ");
        scanf ("%f",&prelim);
        printf ("   Midterm  : ");
        scanf ("%f",&mid);
        printf ("   Semifinal: ");
        scanf ("%f",&semi);
        printf ("   Final    : ");
        scanf ("%f",&final);

        total=prelim+mid+semi+final;
        average=total/4;


        printf ("Total Score  : %.0f",total);

        printf ("\nAverage Score: %.2f",average);

        printf ("\n");

        return 0;


}
```

```
/*
	Machine Problem # 1 - C
	-------------------

	Create a C program that will prompt the user to enter 2 integers.
	The program will display the sum,difference, product, quotient, and remainder.

	Programmer: Navarez, Vannessa Ruth A
	Date: September, 08, 2021
*/

#include <stdio.h>
int main() {
	int num1, num2, sum=0, diff=0, prod=0, quot=0, rem=0;

	printf ("Number 1: ");
	scanf ("%d", &num1);
	printf ("Number 2: ");
	scanf ("%d", &num2);

	sum = num1 + num2;
	diff = num1 - num2;
	prod = num1 * num2;
	quot = num1 / num2;
	rem = num1 % num2;

	printf("\n");

	printf ("The result of %d + %d = %d.", num1, num2, sum);
	printf ("\nThe result of %d - %d = %d.", num1, num2, diff);
	printf ("\nThe result of %d * %d = %d.", num1, num2, prod);
	printf ("\nThe result of %d / %d = %d.", num1, num2, quot);
	printf ("\nThe result of %d %% %d = %d.", num1, num2, rem);


	printf("\n");


	return 0;



}
```

```
/*
        Machine Problem #1 – C++
        ------------------

        Create a C++ program that will prompt the user to enter 2 integers.
        The program will display the sum,difference, product, quotient, and remainder.

        Programmer: Navarez, Vannessa Ruth A
        Date: September, 08, 2021
*/

#include <iostream.h>
using namespace std;
int main() {
        int num1, num2, sum=0, diff=0, prod=0, quot=0, rem=0;

        cout<<"Number 1: ";
        cin>>num1;
        cout<<"Number 2: ";
        cin>>num2;

        sum = num1 + num2;
        diff = num1 - num2;
        prod = num1 * num2;
        quot = num1 / num2;
        rem = num1 % num2;

        cout<<"\n";

        cout<<"The result of "<<num1<<" + "<<num2<<" = "<<sum<<"."<<endl;
        cout<<"The result of "<<num1<<" - "<<num2<<" = "<<diff<<"."<<endl;
        cout<<"The result of "<<num1<<" * "<<num2<<" = "<<prod<<"."<<endl;
        cout<<"The result of "<<num1<<" / "<<num2<<" = "<<quot<<"."<<endl;
        cout<<"The result of "<<num1<<" % "<<num2<<" = "<<rem<<".";

        cout<<"\n";


        return 0;



}
```

```
/* Navarez PRELIM */

#include <iostream>
#include <iomanip>
#include <string>
using namespace std;
int main () {
	int quan;
	string prodNum, prodName;
	float price, payment, paid=0, change=0;

	cout<<"Enter Product Number : ";
	getline(cin,prodNum);
	cout<<"Enter Product Name   : ";
	getline(cin,prodName);
	cout<<"Enter Product Price  : ";
	cin>>price;
	cout<<"Enter Quantity Bought: ";
	cin>>quan;

	paid = price * quan;

	cout<<"\nAmount to be Paid  : "<<setprecision(2)<<fixed<<paid<<endl;

	cout<<"\nEnter Payment      : ";
	cin>>payment;

	change = payment - paid;

	cout<<"\nChange             : " <<setprecision(2)<<fixed<<change<<endl;


	return 0;


}
```

BREAKOUT - 1

```
#include <stdio.h>

int main (){

	const double regCharge = 400;
	const int regMin = 50;
	const double overReg = 8;

	const double premCharge = 425;
	const int premMin = 75;
	const double overPrem = 4;

	const int premMinNight = 100;
	const double overPremNight = 2;

	double regular();
	double premium ();

	int acc, min, hr;
	char serType;
	double amountDue=0;


	printf ("Account #: ");
	scanf ("%d", &acc);

	printf ("Service Code : ");
	scanf ("%s", &serType);


		/*-------REGULAR-------*/

	if (serType == 'r' || serType == 'R')
	{
		printf ("Duration in minutes: ");
		scanf ("%d", &min);

			if (min<=regMin)
			amountDue = regCharge;


			else
			amountDue = regCharge + (min-regMin) * overReg;
			printf ("Amount Due: %.2lf", amountDue);
	}


		/*-------PREMIUM-------*/

	else if(serType == 'p' || serType == 'P')
	{
			printf ("Time 24hr format: ");
```

```
                scanf ("%d", &hr);
                printf ("Duration in minutes: ");
                scanf ("%d", &min);

        /*---------DAY---------*/
                if (hr<19 && hr>5)
                        if (min <= premMin)
                                amountDue = premCharge;
                        else
                                amountDue = premCharge + (min-premMin) * overPrem;

        /*--------NIGHT--------*/
                else
                {
                        if (min >= premMinNight)
                                amountDue = premCharge;
                        else
                                amountDue = premCharge + (min-premMin) * overPrem;
                }
                printf ("Amount Due: %.2lf", amountDue);
    }

    else
            printf ("Invalid Service Code.");



}
```

```
/* Breakout Session #2

        Using switch-case statement, create a program that will prompt
        the user to enter BINGO numbers.
        That is  1 to 15 is ‘B’, 16 to 30 is ‘I’, and so on.
        The program will also display "Invalid number" for invalid inputs.

        Programmer: Vannessa Ruth A. Navarez
        Date: October 18, 2021

*/

#include <stdio.h>

int main (){
        int num;

        printf ("BINGO GAME\n");
        printf ("Imput Number: ");
        scanf ("%d", &num);

switch(num){
        case 1:
        case 2:
        case 3:
        case 4:
        case 5:
        case 6:
        case 7:
        case 8:
        case 9:
        case 10:
        case 11:
        case 12:
        case 13:
        case 14:
        case 15: printf ("B!"); break;
        case 16:
        case 17:
        case 18:
        case 19:
        case 20:
        case 21:
        case 22:
        case 23:
        case 24:
        case 25:
        case 26:
        case 27:
        case 28:
        case 29:
        case 30: printf ("I!"); break;
        case 31:
```

```
        case 32:
        case 33:
        case 34:
        case 35:
        case 36:
        case 37:
        case 38:
        case 39:
        case 40:
        case 41:
        case 42:
        case 43:
        case 44:
        case 45: printf ("N!"); break;
        case 46:
        case 47:
        case 48:
        case 49:
        case 50:
        case 51:
        case 52:
        case 53:
        case 54:
        case 55:
        case 56:
        case 57:
        case 58:
        case 59:
        case 60: printf ("G!"); break;
        case 61:
        case 62:
        case 63:
        case 64:
        case 65:
        case 66:
        case 67:
        case 68:
        case 69:
        case 70:
        case 71:
        case 72:
        case 73:
        case 74:
        case 75: printf ("O!"); break;
        default: printf ("Invalid Number!");
        }

        return 0;

}
```