CPS 188 Lab 5 Harsh Solanki

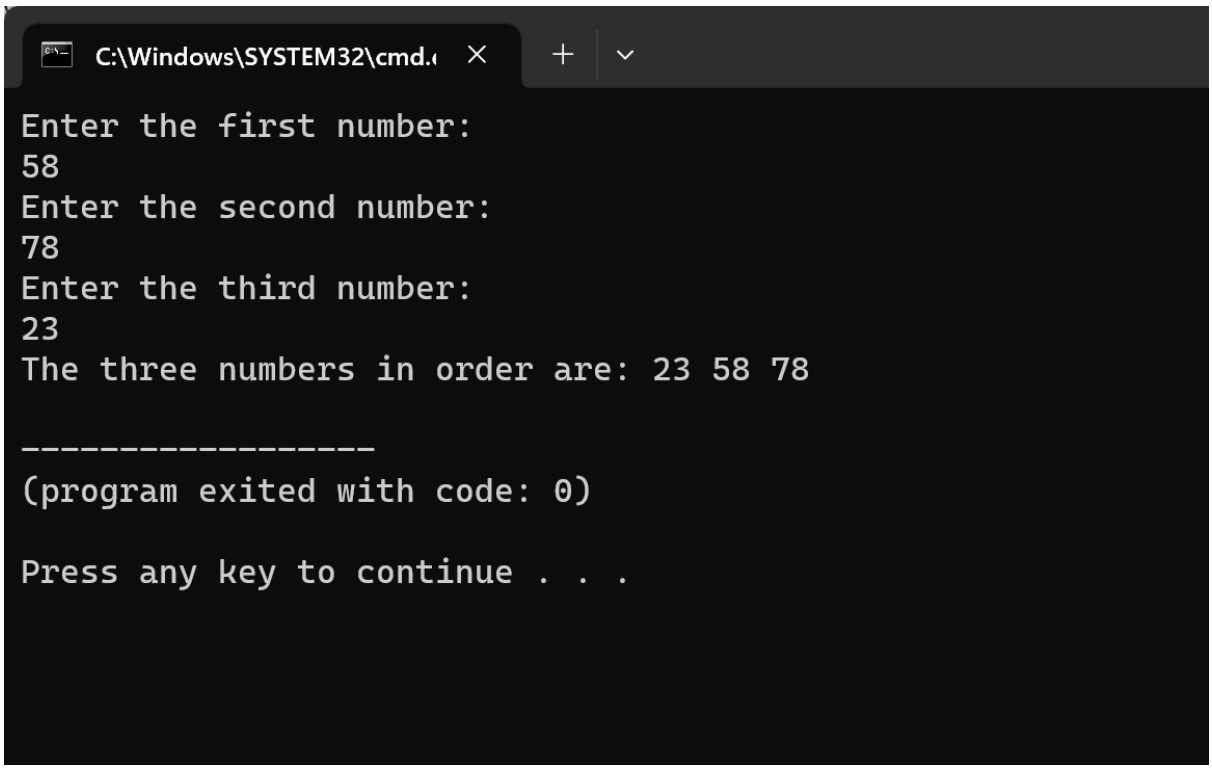
Problem 1:

Source code:

```
#include <stdio.h>

int main()
{
	int a, b, c, *num1, *num2, *num3;


	printf("Enter the first number: \n");
	scanf("%d", &a);
	printf("Enter the second number: \n");
	scanf("%d", &b);
	printf("Enter the third number: \n");
	scanf("%d", &c);

	num1=&a;
	num2=&b;
	num3=&c;


	if (*num1>=*num2 && *num1>=*num3 && *num2>=*num3)
	{
		printf("The three numbers in order are: %d %d %d", *num1, *num2,
*num3);
	}
	else if (*num1<=*num2 && *num1<=*num3 && *num2<=*num3)
	{
		printf("The three numbers in order are: %d %d %d", *num1, *num3,
*num2);
	}
	else if (*num2<=*num1 && *num2<=*num3 && *num1<=*num3)
	{
		printf("The three numbers in order are: %d %d %d", *num2, *num1,
*num3);
	}
	else if (*num2<=*num3 && *num2<=*num1 && *num3<=*num1)
	{
		printf("The three numbers in order are: %d %d %d", *num2, *num3,
*num1);
	}
	else if (*num3<=*num1 && *num3<=*num2 && *num1<=*num2)
	{
		printf("The three numbers in order are: %d %d %d", *num3, *num1,
*num2);
```

```
	}
	else
	{
		printf("The three numbers in order are: %d %d %d" , *num3, *num2,
*num1);
	}
	return 0;
}
```

Test run:



Problem 2:

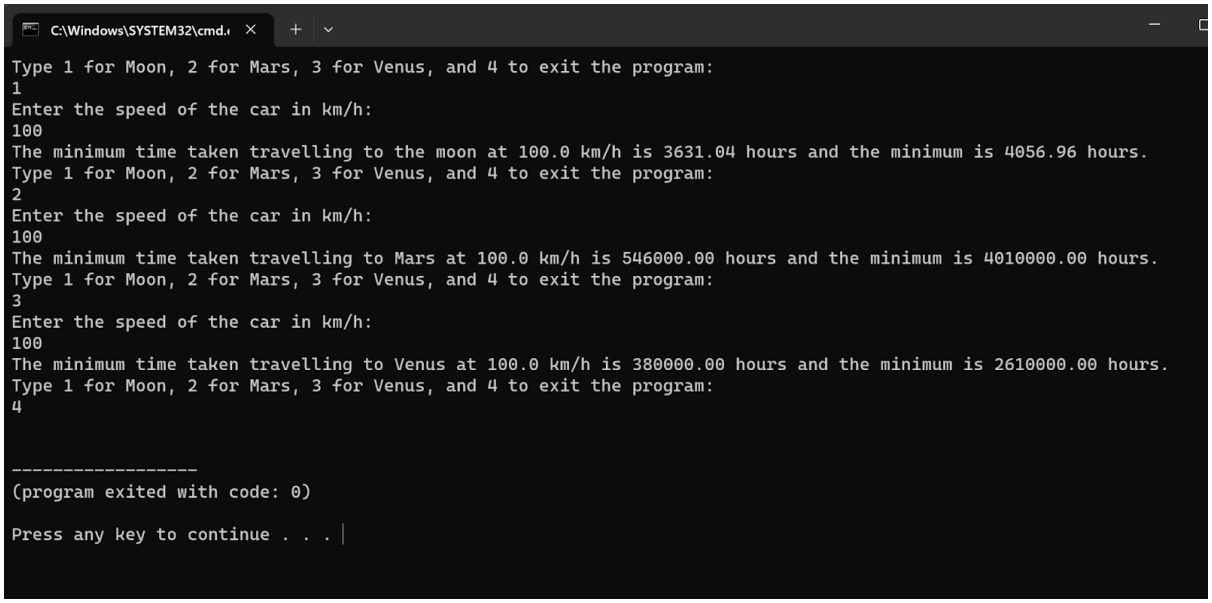
Source code:

```
#include <stdio.h>

double moon (double car_speed, double *t1, double *t2)
{
	double perigee = 363104, apogee = 405696;

	*t1 = perigee/car_speed;
	*t2 = apogee/car_speed;
```

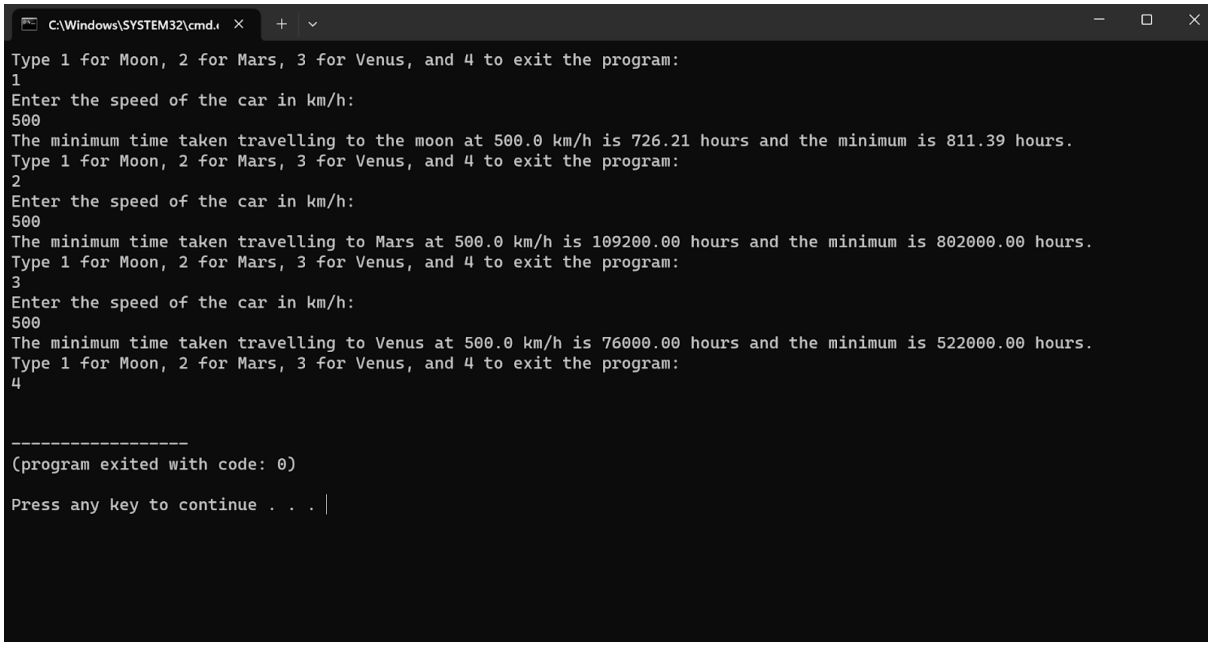
```
	return (apogee);
}

double mars (double car_speed, double *t1, double *t2)
{
	double perigee = 54600000, apogee = 401000000;

	*t1 = perigee/car_speed;
	*t2 = apogee/car_speed;

	return (apogee);
}

double venus (double car_speed, double *t1, double *t2)
{
	double perigee = 38000000, apogee = 261000000;

	*t1 = perigee/car_speed;
	*t2 = apogee/car_speed;

	return (apogee);
}


int main ()
{
	int choice=0;
	double car_speed, t1, t2;


	while (choice != 4)
	{
		printf("Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to
exit the program: \n");
		scanf("%d", &choice);

		if (choice == 1)
		{
			printf("Enter the speed of the car in km/h:\n");
			scanf("%lf", &car_speed);
			moon(car_speed, &t1, &t2);
			printf("The minimum time taken travelling to the moon
at %.1lf km/h is %.2lf hours and the minimum is %.2lf hours.\n",
car_speed,t1, t2);
		}
```

```
            else if (choice ==2)
            {
                  printf("Enter the speed of the car in km/h:\n");
                  scanf("%lf", &car_speed);
                  mars(car_speed, &t1, &t2);
                  printf("The minimum time taken travelling to Mars at
%.1lf km/h is %.2lf hours and the minimum is %.2lf hours.\n",
car_speed,t1, t2);
            }
            else if (choice ==3)
            {
                  printf("Enter the speed of the car in km/h:\n");
                  scanf("%lf", &car_speed);
                  venus(car_speed, &t1, &t2);
                  printf("The minimum time taken travelling to Venus at
%.1lf km/h is %.2lf hours and the minimum is %.2lf hours.\n",
car_speed,t1, t2);
            }
      }
}
```

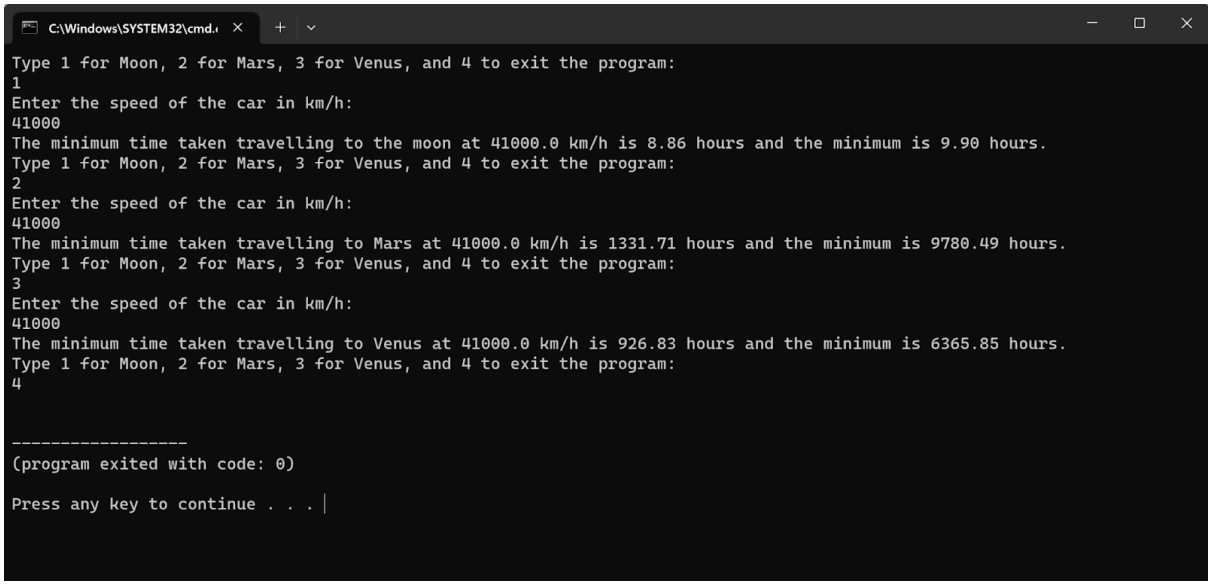
Test Run:
100km/h



500 km/h


C:\Windows\SYSTEM32\cmd.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
1
Enter the speed of the car in km/h:
500
The minimum time taken travelling to the moon at 500.0 km/h is 726.21 hours and the minimum is 811.39 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
2
Enter the speed of the car in km/h:
500
The minimum time taken travelling to Mars at 500.0 km/h is 109200.00 hours and the minimum is 802000.00 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
3
Enter the speed of the car in km/h:
500
The minimum time taken travelling to Venus at 500.0 km/h is 76000.00 hours and the minimum is 522000.00 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
4
(program exited with code: 0)
Press any key to continue . . .

41000 km/h


C:\Windows\SYSTEM32\cmd.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
1
Enter the speed of the car in km/h:
41000
The minimum time taken travelling to the moon at 41000.0 km/h is 8.86 hours and the minimum is 9.90 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
2
Enter the speed of the car in km/h:
41000
The minimum time taken travelling to Mars at 41000.0 km/h is 1331.71 hours and the minimum is 9780.49 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
3
Enter the speed of the car in km/h:
41000
The minimum time taken travelling to Venus at 41000.0 km/h is 926.83 hours and the minimum is 6365.85 hours.
Type 1 for Moon, 2 for Mars, 3 for Venus, and 4 to exit the program:
4
(program exited with code: 0)
Press any key to continue . . .