



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

# **SCHOOL OF COMPUTING**

Faculty of Engineering

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**SECP1513 – TECHNOLOGY AND INFORMATION  
SYSTEM**

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**ROBOKAR WORKSHOP**

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SECTION: 08 – 1SECR

COURSE NAME: BACHELOR OF COMPUTER SCIENCE – NETWORK AND SYSTEM  
SECURITY

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DATE OF SUBMISSION:

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# **One Day Workshop on ROBOKAR**

## **Introduction**

The one-day workshop has been conducted on the 8<sup>th</sup> of December 2019. The venue of this workshop is at Active Learning lab, block N28 UTM. The purpose of this workshop is to introduce more people to not just programming but also to robotic programming. Although this two is in the same field, but it is an entirely different part of the programming world. The workshop also helps to build interest and teach more on how to do programming. The benefit of this comparing it to computer programming is that the user can see the result physically based on the code they have written. The program was organized by the ROBOKAR facilitator and our lecturer, Dr. Haswadi Hasan. A total of 36 students from section 08 of the course Technology and Information System attended the workshop.

## **Description of the program**

The workshop started with the registration of the program and the participants to arrive. At 2.30 pm, the program started with slides of presentation from the facilitators. They explained to us what a ROBOKAR is. ROBOKAR is a model car that uses sensor to move around on the track. The model car runs by using an Arduino. The Arduino uses the language C programming. After explaining what a ROBOKAR is, we were shown the achievements achieved by the workshop. The workshop started since 2012. Since then, the workshop has had over 1200 participants ranging from all level of education from school level students to undergraduate students. After showing the history of the workshop, we were taught on how to operate a model car. As stated, it uses C

programming. For us who are taking computer science subjects, we were introduced to programming at the start of the semester, so we had a brief understanding of the language we were going to use. But for the school level participants, they may have a bit of trouble understanding the meaning and the uses of each and every command they enter. The facilitators also showed us the files and library files that we were going to use to run the model car and the flow on how to make the model car move. After the presentation, we were divided ourselves into six groups to make things easier for the organizer. We were given a model car, a pen-drive containing the files needed and two books helping us in understanding and helping us. After installing the IDE files, we started our practical session to code our program for the model car at 3 pm. All the groups had around 1 hour and 30 minutes to code and test the model car. Other than the small books provided, a few facilitators were willing to help us in needed when we encountered an error in our code. After coding, the groups could test the model car on a small and simple track provided to find the problems and errors in the code. After encountering many problems, we managed to finish on time before the game. The ROBOKAR game is a small game to test the limit of our model car on a fairly challenging track with a timer. We started the game at around 4 pm. All the teams needed to test their model car's functionality. The track has 7 checkpoints each with their own level of difficulty. Our group was the first group so we were the first to present. Unfortunately, we were unable to finish the track as our code were incomplete. After all the groups had given a try, the facilitator announced the winner who using the shortest time to complete the track. After the prize-giving, we had a photo session with the organizers and also the facilitators. This marked the end of the workshop and we were all dismissed after that.

## **Reflection**

By attending this workshop, we can strengthen our programming basic as they guide us step by step on how to program the model car by using C programming. Although C programming is a little different compared to the C++ programming that we have learnt in UTM, but we are still able to program the model car because the facilitators give detailed explanation whenever we faced difficulty to program the model car. Hence, we are a step closer to our goal because we get to know more about other programming language by attending this workshop.

In the future, we would work harder to improve our programming skill in C programming language as we already have the basic of this language after attending this workshop so that we can obtain the skills needed to achieve our goal. Furthermore, we are looking forward to attend more workshops or competitions related to programming so we can learn different programming languages such as Java, Python and much more so that we can master the programming skill. All these actions are necessary because not only we can secure a job easier than the other graduates.

## **Task of Each Member**

The work we have were divided equally among ourselves and we all carried out our work that were assigned. The task we were given were not a lot so some of us are doing the same job. Abir and Iurii were in charge of taking picture and video from the workshop. Jack, eyu and chua were mainly in charge of doing the coding but all of us help too. Lastly Nicholas wrote the report for the workshop.

## **Conclusion**

The workshop is a good way to get more students and people involved in the world of programming. It shows us the way something moves because of the code we put in thus making participants learned much quicker due to its nature. We were all thrilled and honored to be able to be a part of the program. The facilitators were willing to help and teach those who are in need of help and were able to provide said needed help. We would also like to thank the organizers to plan the workshop for us and the facilitators who were there to help us in need.

## Pictures from The Workshop



Facilitator giving presentation



Model car



Doing the coding for the model car



ROBOKAR Game